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ABSTRACT

This collected work presents nine papers concerning state college and university expectations which were originally presented at an August 1989 conference in Colorado developed by the Academic Affairs Resource Center. Topics considered in the essays include the essential philosophy undergirding the American Association of State Colleges and Universities (AASCU), critical issues affecting the future of the various disciplines, research and scholarship, and the role of AASCU institutions in the community. Papers have the following titles and authors: "AASCU's Role among Institutions of Higher Education" (Keith Lovin); "Nontraditional and Minority Students, Faculty, and Staff: How Have They Contributed to a Transformation of the Academic Community?" (Tobin Barrozo); "The Liberal Arts and the Professions: On Common Ground" (Catherine Gira); "The Arts and Humanities and AASCU's Mission" (David Jorns); "Science and Technology" (Robert Caret); "Scholarly Activity, Interdisciplinary Team Teaching, and the Professional Vitality of AASCU Faculty" (Ronald Woodbury); "The Role of Scholarship in Serving the Mission of AASCU Institutions" (Richard Pattenaude and Michael Bassis); "Continuing Education" (David Strand); and "Economic Development and AASCU Institutions: An Examination of Roles and Critical Questions for State Policy Makers" (John Bardo and others). References accompany some papers. (DB)

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Defining the Missions of AASCU Institutions

John W. Bardo, Editor

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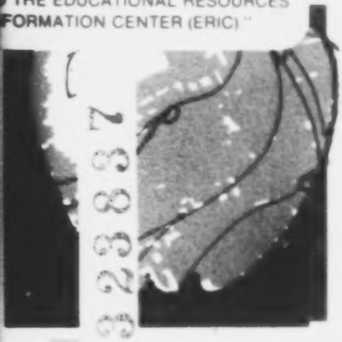

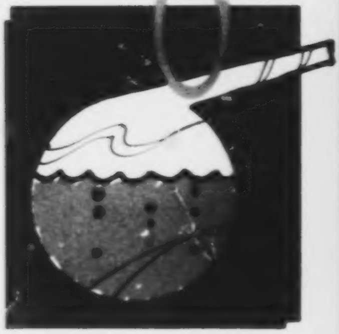

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American Association of State Colleges and Universities

Defining the Missions of AASCU Institutions

John W. Bardo
Editor

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Acknowledgments

During the last several years, Academic Affairs Resource Center (AARC) associates have addressed issues concerning the role of universities and colleges in economic development, access for minority and nontraditional students, educational deficiencies, establishment of viable noncredit programs, increasing complexities of research and scholarship, the role of liberal arts and professional education in our various institutions, the changing nature of the major, public-private partnerships, and pressures on institutions to change. All had been debated both in formal programs and in the halls between meetings. These issues all came together in a series of programs at Copper Mountain, Colorado, in August 1989. During these sessions, AARC associates debated and discussed their expectations for the next several years for AASCU institutions. The cornerstone of these discussions was a series of papers developed and presented by AARC associates. These papers, along with several others reflecting topics raised at the meeting, have been collected and edited for this volume.

The contributors to this work would like to thank Evelyn Hively and her staff for their assistance and support. And especially, we would like to thank Evelyn for the leadership she has given the academic vice presidents in her role with AASCU. On the eve of her retirement we hope she knows how much she will be missed. Also, we would like to thank Nilda Rendino and her staff for their assistance in preparing the manuscripts, for words of encouragement, and for coordinating the various aspects of publication. We would also like to thank Deborah J. Bardo for copy editing the various chapters and for her many helpful suggestions. Finally we would like to thank all the participants in the Copper Mountain meetings who freely shared their ideas and experiences; we hope they are adequately represented herein.

Introduction

There are five basic, distinguishing characteristics of the American system of higher education that make it unique in the world and from which it draws its strength: (1) requirements for a liberal arts and sciences based general education for all students; (2) integration of liberal learning and professional education; (3) recognition of the importance of education of the populace for the future of democracy; (4) great diversity in the types and numbers of institutions; and (5) the long-term relationship between educational institutions and the well-being of the community.[1] No other system of higher education combines all of these attributes into one reasonably coherent whole. And although it may be appropriate to criticize American higher education for its weaknesses and shortcomings, we should never lose sight of its paramount achievement: more people in the United States have access to postsecondary education through a university or college than in any other country in the world. Likewise, over the last century, and especially since World War II, access to higher education has been the single most important determinant of social mobility in this country. Indeed, future historians may see our system of higher education as the crowning achievement of American culture.

This book explores the role of AASCU-type institutions in the ever-changing landscape of higher education. The following essays do not look back and focus on what is wrong with higher education; they celebrate the future and its possibilities. The first two, by Keith Lovin and Tobin Barrozo, concentrate on the essential philosophy undergirding AASCU. Dr. Lovin examines the role of AASCU institutions in the constellation of American higher education, and Dr. Barrozo makes a cogent argument for the historical and social significance of access for diverse populations. In the next section, the authors examine critical issues affecting the future of the various disciplines. Catherine Gira's forceful essay on the relationships between liberal learning and professional education provides a blueprint for integration of the two faces of higher education. David Jorns then examines the historical role of the arts and humanities in AASCU colleges and universities. Dr. Jorns poses several important questions about directions for the future of these disciplines. Next, Robert Caret discusses the concerns of the sciences, disciplines that play an increasingly significant role in colleges and universities both in general education and in technology transfer.

The third section of the book focuses on research and scholarship. Ronald Woodbury poses a broad-based model of scholarship involving colleagues as "peer reviewers." He argues that there are many avenues aside from traditional publication by which faculty can demonstrate scholarship, and he provides an example of the relationships that can be forged between teaching and research. Richard Pattenaude and Michael Bassis report on the role of scholarship as perceived by chief academic officers at AASCU institutions. The results of their survey are important for understanding how we think of scholarship and for discerning the role of scholarship in our universities and colleges.

In the final section, the role of AASCU institutions in the community is examined. David Strand discusses the great variety of continuing education options available allowing AASCU colleges and universities to better serve the needs of their regions. Finally, the editor of this volume and his colleagues discuss the variety of roles played by AASCU in economic development. They also pose a series of questions to assist presidents and vice presidents in their work with legislators who desire to include a major economic development focus in the mission of the college or university.

It should be clear that the essays in this volume all address aspects of the fundamental role of higher education in American society as posed in the opening paragraph. General education, professional and liberal education, the importance of educational access, diversity, and relationships between the community welfare and higher education are all discussed in their various forms. Again, the focus of this volume is not on failure, but on success. The authors examine the past and the present with an eye to a vital, exciting future. They do not decry the "loss of focus" or increasing "vocationalism" of higher education; they examine these issues within their historical and social contexts and make recommendations for the future. This work celebrates diversity in higher education as well as higher education's evolution, its shifts in direction, and its symbiotic relationship with society.

Some in the academy find the vocational interests of many current students to be something less than desirable, and some long for the days when learning was "pure" and knowledge sought for knowledge's sake. There is a concomitant longing for a return to the canon and for the exclusion of disciplines (and knowledge) that do not fit a particular image of what "belongs." This is an unfortunate doctrine that ignores both the historical fact of higher education as it emerged in the United States and the critical social and political role played by mass education within a Jeffersonian democracy.

If we examine the founding of American universities, especially Harvard, we will see a picture very different from one that might be termed the "Education of Western Nostalgia." The Puritans in early Massachusetts strongly believed in fully examining their own beliefs; they also greatly detested "ignorant sinners."[2] To provide education, and especially for the education for their clergy who were seen as vital to the community (clearly a vocational interest), they founded Harvard.[3] The educated of Harvard were to be the religious and community leaders required by the society of the day. The first board of overseers of Harvard was composed of magistrates and ministers; there were also a president, two fellows, and a treasurer.[4] The first president of Harvard, Henry Dunster, was forced to resign his position because his religious beliefs began to resemble the Anabaptists' rather than the Puritans' (an unforgivable transgression of the canon). So, Harvard had its intellectual roots not only in the rare earth of liberal learning, but also in the much more mundane compost of community need and vocational interest.

Similarly, the College of William and Mary was founded with schools of philosophy, divinity, and a school aimed at converting the Native American. Its structure also included a grammar school to provide basic education for applicants who were not otherwise prepared.[5] Some students who could afford to attend paid their own way; others received public support from the imposition of a tobacco tax. As with Harvard, it was expected that Virginia would draw its clergy and civil servants from among the students educated at William and Mary.[6] The University of Pennsylvania was founded with both classical and mechanical educational tracks. Early courses included "science, surveying, history, agriculture, English, writing, speech, and contemporary politics."[7] In sum, early American colleges were founded for a variety of intellectual, political, religious, and social reasons; they were not merely bastions of "liberal learning" based on a traditional view of knowledge. Higher education provided the basic tools necessary to enter the clergy and civil service as well as various mercantile occupations.[8] According to Frederick Rudolph:

> There they were—all the reasons that might be summoned for having a college. A college develops a sense of unity where, in a society created from many of the nations of Europe, there might otherwise be aimlessness and uncontrolled diversity. A college advances learning; it combats ignorance and barbarism. A college is a support of the state; it is an instructor in loyalty, in citizenship, in the dictates of conscience and faith. A college is useful: it helps men to learn the things they must know in order to manage the temporal affairs of the world, it trains a legion of teachers. All these things a college was. All these purposes a college served.[9]

To be sure, the vast majority of Americans did not attend college in the prerevolutionary period; nor was a college education the necessity it is today. But early colleges in America were creatures of their culture and products of their society. They reflected a great deal of the tradition of the European institutions on which they were based (especially the British and Dutch), but they were also uniquely American.

As we enter the decade of the 1990s we would do well to remember that the tensions faced by our universities and colleges are not new; we can see them in the writings and actions of our educational founders in the seventeenth and eighteenth centuries. Issues concerning the adequacy of education and its appropriate role in society, the canon, resource availability, faculty and student responsibility, and institutional structure were all with us from the beginning. The chapters in this book attempt to bring form and focus to the question of the role AASCU institutions should play as they redefine their missions in the context of the last decade of the twentieth century.

Notes

[1] See also Derek Bok, *Higher Learning* (Cambridge, Mass.: Harvard University Press, 1986).

[2] Paul Westmeyer, *A History of American Higher Education* (Springfield, Ill.: Charles C. Thomas, 1985).

[3] Frederick Rudolph, *The American College and University: A History* (New York: Knopf, 1968).

[4] Westmeyer, p. 9.

[5] Westmeyer, p. 11.

[6] Rudolph, p. 7.

[7] Westmeyer, p. 15.

[8] E. D. Duryea, "The University and the State: A Historical Overview," *Higher Education in American Society*, eds. Philip G. Altbach and Robert O. Berdahl (Buffalo: Prometheus, 1987).

[9] Rudolph, pp. 12-13.

Prologue

Continuity and Change:
The Role of AASCU Institutions
in Contemporary Higher Education

In the summer of 1985 the participants at the meeting of the Academic Affairs Resource Center gathered to discuss "Changing Aspects of the Academic Mission." James E. Gilbert, now president of East Stroudsburg University of Pennsylvania, wrote a summary of the discussions. This is part of that summary, which also includes a statement of mission drafted by the participants at that meeting and later refined by a committee. It is in accord with earlier policy statements by the presidents of AASCU member institutions.

Recent reports of commissions on higher education, frequently critical of the processes and products of the American university system, have cast a cloud across the whole of undergraduate education in this country. The criticism, however applicable to some institutions, does not recognize the mission and the achievement of the members of the American Association of State Colleges and Universities. To answer the question of effectiveness in contemporary higher education, the Associates of the Academic Affairs Resource Center—senior academic officers of AASCU institutions—met recently to consider their role in the postsecondary system and to define their place in the continuum of higher education.

These vice presidents and vice chancellors join the academic community in recommending close scrutiny of contemporary educational philosophy and practice in colleges and universities. The challenge of meeting the needs of an increasingly complex world demands continuous examination and adjustment on the part of all involved in higher education. Yet in the current climate of widespread, serious doubts about the value of a college education, AASCU institutions as a whole have reason to stand proud as they review their collective contribution to teaching and learning. They believe that, with the resources available, public colleges and universities offer sound educational opportunities to all segments of the general population.

The academic history of AASCU schools is one of continuing commitment to broad access and educational quality. These institutions have earned awards for innovation in numerous areas of higher education, but even more significant are their academic programs that consistently have been adapted to the needs of the university and society. With a long and enviable record in the preparation of teachers for the public schools, they have continuously implemented review and reform to keep teacher education current with new information, pedagogical methods, and social demands. Some outstanding pilot projects in teacher education have helped to improve preparation across the nation.

The AASCU colleges and universities which began as branches of major universities, those which have moved beyond their original primary function of teacher preparation, as well as those created recently to meet contemporary educational needs, constitute the major portion of the country's comprehensive universities. Serving increased numbers of students with diverse backgrounds and capabilities, offering career training for contemporary vocations, AASCU institutions nevertheless have maintained a strong commitment to the liberal arts as central to undergraduate education. Although most are young institutions in their present forms, many have produced important research and stirred creative discussion in the academic profession. Beyond baccalaureate education, graduate programs at AASCU universities have evolved to meet many needs: of students for specialized professional training, of corporations for research and for well-trained employees, of universities for scholarship, and of communities for economic and governmental leadership.

In addition to conventional measures of quality such as financial strength, research productivity, prestigious grants, and student achievement, AASCU institutions use criteria appropriate to their mission. These include excellent teaching, innovative programs combining career preparation and general education, student services that promote both intellectual and personal development, and contributions to the welfare of community and state. The establishment and assessment of such alternate criteria constitute a responsiveness to diverse constituencies and a service to society.

The forward-looking capacity of these colleges and universities is perhaps their strongest distinguishing feature. It is imperative that postsecondary education anticipate and direct the change that is occurring at an ever-increasing rate in all of education. AASCU academic officers recently articulated four priorities for future attention: responsiveness to changing demographics and enrollment standards as well as concerns about access; the necessary reallocation of funds in a time of shifting academic demands and, in some cases, reduced state support; attention to means of enhancing faculty vitality, especially for senior members of the professoriate; assessment of the impact of new technologies on instructional processes and financial resources. As AASCU institutions face these problems collectively, they welcome the challenge to work together finding solutions and creating positive, proactive change.

The shared history, characteristics, and goals of AASCU institutions permit a general mission statement for the academic programs of the future. Recognizing that institutions constantly evolve and that no two are exactly alike, the Center Associates perceive a differentiation of AASCU colleges and universities from other types of institutions, even though within this group they may be enormously diverse.

The common identity and purpose provided by an AASCU mission statement can guide state colleges and universities in their search for meaning and balance among conflicting forces, direct the development of programs to meet student interests and social imperatives, and help to synthesize educational concepts. In the challenging times ahead AASCU institutions will continue to play a significant, distinctive role in American higher education.

Academic Mission Statement

The typically American institutions that compose the American Association of State Colleges and Universities play a distinct role in the higher education system of this democratic nation. Their mission is to create an integrative yet dynamic balance among diverse and often conflicting demands on contemporary public colleges and universities. A balance is sought between access for all who can profit from an education and the quality of instruction necessary for maximal development of each student; between theory and application in the instructional process, so that teaching, research, and service can all be appropriately emphasized; between liberal education for the student's personal lifelong growth and professional education for career preparation; between internal institutional needs and increasing demands of external forces; between regional service on one side and national and international views on the other. Each institution, in determining the balance point appropriate to its individual mission, its resources, and its constituencies, can serve both academic values and the changing needs of society.

1

AASCU's Role Among Institutions of Higher Education

Keith Lovin
Vice President for Academic
and Student Affairs
University of Southern Colorado

The diversity among AASCU institutions is great, ranging from small, undergraduate colleges to large, complex, doctoral granting institutions. Because of differences in mission, role, and scope, there are few features shared by all AASCU institutions. There are, however, some "family resemblances."

Institutions of higher learning share some important features. All are places where there is, or should be, the open and free exchange of ideas, where students receive knowledge that prepares them for living as well as earning a living, and where the pursuit of new knowledge is encouraged and supported. But there are differences as important as the similarities. Major research and land-grant institutions have missions and responsibilities that address national and even international concerns. Research conducted in such places is frequently "pure" or, if applied, has potential import for all the inhabitants of the globe. The major private universities support research in much the same way while frequently being repositories for the children of the nation's best educated and most well-to-do. Less so than in years past, but still to a considerable degree, these private liberal arts institutions are populated with students who will eventually assume leadership positions in business, government, and other professions. Many private or church related institutions have missions directed to constituencies defined in terms other than regional populations, and they frequently promote certain religious beliefs and practices as well as cultivate church leaders.

All of this is important, and I am glad we live in a society that offers choices for such diversity. AASCU institutions have a somewhat different, though no less important, role to play in the educational enterprise. First and foremost, they provide access to higher education not offered by the other institutions mentioned and without which a large portion of our society would not be the beneficiaries of a college education. If we take seriously Thomas Jefferson's proposition that the well-being of a democracy depends on a well-educated citizenry, then the access to higher education AASCU institutions provide in terms of cost, convenience, and flexibility would be sufficient in and of itself to justify fully their existence as another class of institutions. When the role they play in educating minorities, adults, and other nontraditional students is included in the calculus, the value of this type of institution is inestimable. Without AASCU institutions we would find ourselves on a slippery slope toward oligarchy or a revolutionary reorganization of higher education—a reorganization we are ill equipped to handle.

AASCU institutions are uniquely well-positioned to engage in the life of the community in which they reside and to serve the needs of the region they occupy. Unlike major research, private liberal arts, and church-related institutions whose missions speak to national, global, or parochial constituencies, AASCU institutions exist to serve the people of their region. This service takes the form of economic development efforts, in partnership with business and civic leaders, which includes academic programs and research efforts tailored to local needs, linkages with the community through advisory committees involving local leadership, and myriad other bridges responsive to community and regional needs. And, in many cases, the bulk of a community's cultural and aesthetic enrichment depends on the presence of a regional college or university. Although all colleges may benefit the region in which they reside, they frequently do so only incidentally as part of a larger endeavor. Most AASCU colleges or universities, on the contrary, have an obligation, as part of their mission, to reach out and serve the people in their region who are their primary constituents.

In addition to the access to higher education and the service to regional populations AASCU institutions provide, they offer other key benefits. AASCU institutions have taken the leadership in teacher education preparation. Following the plethora of studies and reports on the status of education in our public schools and the recent movement into this arena by the research universities, AASCU institutions should once again assume responsibility for redefining the way we educate and certify our teachers. This is beginning to occur, but if we are to effect the kind of change we should, our faculty members must abandon a defensive posture and be willing to overcome decades of bureaucracy and practice that have hindered real progress. And we must do it now, through a collective, coordinated effort, or else take a back seat to institutions for which teacher education has not heretofore been a priority.

Most AASCU institutions have the opportunity to define general education in ways that mesh with their particular role and mission. For example, the University of Southern Colorado, by statutory mandate, is a regional university with a polytechnic emphasis. By definition, we are a regional university with a special commitment to applied research and career-oriented education, embracing but not limited to the technologies in engineering and science, business, and grounded upon an unalterable commitment to the traditional liberal and fine arts. A new general education program is currently being developed, but it is one in which we intend to use technology as a unifying theme. Although it is too early now to predict the final outcome, our present proposal calls for advanced-level instruction in technology and business, to be team taught with faculty members from the liberal arts and sciences. These courses will help promote the integration of the liberal arts and sciences with other disciplines in a manner consistent with our particular mission. If you view the approach to general education as one calling for a decision about the meaning of general education on a *particular campus*, rather than a discovery of what it *is* after long study, the opportunity exists for many of us to integrate the liberal arts and sciences with other elements of the curriculum in a way that well serves our students.

In other words, AASCU institutions are not, with few exceptions, liberal arts institutions in any strict sense, and most have a range of professional and career-oriented programs. Instead of seeing this as a threat to liberal education as we often do, we have the opportunity to ensure that as we educate students to become engineers, journalists, nurses, teachers, social workers, business people, etc., we also integrate the values of the liberal arts tradition with these programs to the benefit of all. AASCU institutions have the opportunity to show that in liberal education, liberal arts professors are at least as important as liberal arts disciplines. If we really believe what we say about the value of a liberal education, and if we can come to acknowledge that those of us coming from such backgrounds to AASCU colleges or universities are not, for the most part, in the business of training replacements for ourselves, then we can become serious about infusing these values into the curriculum and lives of people who will engage in other professional and vocational pursuits but for whom such education will benefit not only themselves but society itself.

Because access to quality undergraduate education is a defining feature of so many AASCU institutions, the place for graduate education and research are issues needing careful attention, particularly in relation to the other types of institutions in higher education. No doubt, some graduate programs should be offered in AASCU institutions; in some cases, there is a special obligation to do so. Terminal, career-oriented, master's-degree programs are often central to the institution's mission. Sometimes, however, our other graduate programs are excessively incestuous, low quality, and better suited for institutions with the faculty, library, mission, and other resources to engage in graduate education. Although it is dangerous to generalize too much here, graduate programs of quality necessarily divert usually scarce resources from the undergraduate mission of the institution and often duplicate similar programs offered by other nearby universities. A better-coordinated approach to graduate offerings, setting aside issues of turf or misplaced institutional pride, would allow AASCU institutions to realize better their mission in the service of undergraduate students.

A corollary issue we've not yet come to terms with at many AASCU institutions is research. Many of us represent institutions that now bear the title "university" but which evolved to that status from normal schools, teacher colleges, or community colleges. Frequently the institutions we serve have many faculty members who were hired at a time when the expectations for faculty performance were very different from those placed on more recent hires, many of whom come from some of the best research universities in the world. This difference in the preparation and professional outlook of our faculty members sometimes produces a tension concerning the role of research and its place on our campuses at any particular moment of development and maturation. It is a tension over the expectations to be placed on faculty members to engage in research and scholarly activity and to promulgate the results of that activity through published articles and books, or the presentation of papers at professional meetings or exhibitions in juried shows. It is a tension concerning the level of support that the university can make available to faculty members to sustain their research through reduced teaching loads, acquisition and maintenance of equipment, travel, and other assistance.

Again, it is dangerous to generalize too much here because each AASCU institution is at a different stage of development, and some clearly have a major role to play in research. But at a large number of AASCU institutions, research is not the dominant feature of their mission. At such places the challenge is to strike a balance whereby appropriate forms of scholarship are required of all, while allowing other contributions to be made in accordance with individual strengths and university need. At these institutions we should all be clear that teaching is our first priority. We should acknowledge that the intellectual transaction between professor and student is the bedrock of our existence. But we should also be clear that in addition to our disciplined effort to advance the teaching and learning process, there are myriad other tasks requiring our time and deserving our support. It is self-evident that our ability to serve the university in these different ways will be a function of background, training, experience, and desire. It is equally self-evident that these traits are not found in the same measure and to the same degree in each person. Nevertheless, a serious commitment to scholarly life is an inescapable requirement for all.

Faculty members within any institution comprise a community of scholars. Individually and collectively the faculty must think of itself as engaged in an enterprise that is, by definition, scholarly in nature. Our business is to discover and to disseminate knowledge. But that scholarship need not always take the form of articles published in refereed journals, or books, or rigorously screened papers presented at prestigious professional conferences, or exhibitions in juried art shows, or original compositions in music or theater. Most AASCU institutions are not now, nor likely will become, research universities. However, most are, or could become, exceptionally fine teaching universities at which some exemplary research, by some exemplary faculty members, takes place. Our job should be to strive to find the balance whereby each person may realize his or her full potential in contributing to the life of the institution, without thinking that the same contribution is required by each.

The kind of scholarship that should be expected of all faculty members at AASCU institutions, regardless of how modest the research aspirations, is for each to remain current in his or her discipline through appropriate journals and books and other active professional associations. Moreover, it is advisable to create forums in the disciplinary divisions of the institution allowing faculty members to share the results of their thinking and reflection with colleagues and peers. Departmental or college colloquies or symposia can provide opportunities for faculty members to demonstrate ongoing participation in the scholarly life. We must all recognize this participation as essential because it is through such labors that we expand our growing edge and experience illuminating moments of growth. Scholarly activity is also the source for new perspectives in lectures as well as the basis for richer and deeper conversations with both students and colleagues. It is a necessary condition for significant contribution to the intellectual life of the university. In this sense, scholarship is required of everyone.

There are those, of course, whose devotion to scholarship does take the form of bench research, of refereed publications, of juried exhibitions. Through their work, these faculty members not only advance the state of knowledge but they also advance the name, image, and reputation of their institutions. We must support these efforts to the fullest extent possible. Such scholarship is of inestimable value to our academic communities. In addition, we must seek to recruit faculty members who appreciate the importance of rigorous scholarship and we must be ever vigilant to nourish an environment that embraces such values and commitment. To fail to do so will render our institutions stagnant and prevent intellectual growth and maturation.

At the same time, let us be mindful that others in the institution will engage in more modest, broadly defined, forms of scholarship. But to present a paper or lecture to colleagues in the institution is also to engage in scholarly endeavors; so is a new interpretation of a musical score, or a creative application of existing technologies to solve new problems, or consultation with small business to increase productivity and reduce costs. And when these faculty members, in addition, devote their talents to improving the state of academic advising, or promoting the university through sustained service to the larger regional and state communities, or enhancing university governance through service on the faculty senate or other important committees, or restructuring the curriculum through work on general education or other curriculum committees—and so on—that this work is as important as any other. Further, when that work is qualitatively and quantitatively deserving, it must merit the same recognition in the reward system as full-blown research productivity.

This is an urgent issue requiring resolution at many AASCU institutions. Until we deal with it directly, we will probably not conduct searches for new faculty members most effectively. Often we recruit new faculty members as if we were Harvard. Seldom do we consciously try to seek out faculty members who want to be at the institutions we represent, with the result that sometimes we recruit faculty members who would rather be at other kinds of institutions and for whom the proper understanding of AASCU's role in higher education is not present. This, in turn, often means that there is no sense of pride for either their institution or their role in it. If we were to conduct our searches with greater care, ensuring that all new faculty members are committed to an active role in scholarship, but also seeking some who want to contribute in substantial ways to other aspects of academic and student life, we would likely have a more harmonious faculty better aligned with institutional priorities and resources. And, very importantly, we could do a better job of engaging our undergraduate students in research activities, in concert with faculty members, in ways that most AASCU institutions—unlike research universities—are ideally equipped to perform.

In spite of our deficiencies, AASCU institutions occupy a singularly important role in the educational endeavor at the postsecondary level. Not only do we grant one-fourth to one-third of all baccalaureate degrees, but for many we are the only hope for an escape from a life of poverty and dreariness. For even more, AASCU institutions hold the only promise for a life filled with meaning and purpose and the opportunity for advanced graduate and professional study. In short, AASCU institutions are one of the cornerstones of the Republic without which the quality of life in our country would be incomparably poorer. And I have become convinced that all of us at AASCU institutions, whatever our differences institutionally or professionally, should commit ourselves to developing the following attributes in all of the recipients of our baccalaureate degrees:

1. We should imbue our students with a scientific world view—that is, a way of viewing creation as phenomena to be explained and understood through hypotheses and theories empirically tested and refined.

2. We should imbue our students with a coherent and internally consistent world view—that is, a conceptual framework in terms of which they may view the world of nature, the world of behavior both individual and collective, and the world of values—ethical, aesthetic, and religious—without contradiction and in a mutually reinforcing way.

3. We should equip them with the thinking and reasoning skills necessary to support a scientific and coherent world view.

4. We should equip them with these capabilities because of the satisfaction their realization entails and because the world is full of people selling snake oil—their numbers seem to grow exponentially—and our students must be able to see them for what they are.

5. We must equip them with an understanding of the concepts of freedom, responsibility, praise, blame, punishment, and other uses of morally evaluative language. They must understand—and we must understand—that their effectiveness as parents and citizens will depend on it.

6. We must equip them with humanistic knowledge and values, both for their personal enrichment and for better coping with the inevitable tragedies that accompany all our lives. We must enable them to come to appreciate in its fullest Tennyson's claim that "I am a part of all that I have met." We must cause them

to embrace Browning's vision that "A man's reach should exceed his grasp or what's a heaven for."

7. William Sloan Coffin, former chaplain at Yale University, said, "Stand for something or you will fall for anything." We must cause our students to internalize Coffin's dictum. Jeb Magruder, a participant in the Watergate affair, attributed his involvement in that sordid mess to his failure to heed Coffin's maxim.

8. It is especially important that our students understand that it does not follow from the sound and correct notion that everyone has a right to his own opinion, that everyone's opinion is equally right.

9. We should encourage our students who are religious to be so seriously--intellectually as well as spiritually and emotionally. Over many years of teaching philosophy of religion, I have encountered only a few students who take religion seriously in an intellectual sense. We should try to give our students the courage to be one of the exceptions.

10. We must convey a sense of patriotism that stirs not only to "The Stars and Stripes Forever" but to the principles that make this country great as well—that is, a patriotism of the head as well as of the heart. The patriotism that our students must learn must be one that can never be reduced to slogans, and especially not those that suggest that America is only for like-minded persons reluctant to criticize their own government. We must produce patriots of a democracy mature enough to encourage dissent from human folly even when that folly emanates from its leaders.

11. We must give our students a life-long appreciation for aesthetic creativity and expression. A society in which music and art occupy a place of prominence is not only one that is more civilized but more enduring.

12. Finally, we must instill in our students a love affair with language. In a real and important sense, the world and all that it contains is limited only by one's mastery of, and facility with, language.

2

Nontraditional and Minority Students, Faculty and Staff:

How Have They Contributed to a Transformation of the Academic Community?

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Nontraditional and minority students, faculty and staff are fixtures of the higher education landscape. When the complexion, gender, and age of the student body began to change, some faculty like the conservative ideologue, Russell Kirk, left academe never to return; others remained disgruntled observers of the carnival atmosphere of the 1960s. Age, gender, and color barriers came down almost inauspiciously. The GI Bill was the beginning. Legislation flowing from the civil rights movement and the women's movement sealed the fate of American higher education: the privilege associated with higher learning was abandoned and broad access was created. New institutions were built, students enrolled. What happened next?

There has been a "transformation of the academic community." Some have not observed it; they see only devastation and destruction of the academic community; Russell Kirk, Sidney Hook, and most recently, Allan Bloom have decried the loss of the "community of scholars." The habits of mind, values, and the sense of shared responsibility extant a mere three decades past appear to have largely disappeared from the academy. "Pure" as compared with "applied research and technology transfer," Western civilization as compared with multiculturalism, a feminist perspective and what should be included in the general education curriculum: the omnipresence of these issues on campuses is clear evidence that the responsibility faculty have for the curriculum is being challenged by different values and a growing awareness that the habits of mind characteristic of the past need revision. An observer to the debate is reminded of Akira Kurosawa's movie, "Rashomon"; different perspectives on the same object or event usher in different understandings, implications or meaning. The first task is to explain why some fear that the academic community has been destroyed. Explanations, not refutations, are an appropriate propaedeutic for fears; they are the product of perspective when logic has failed.

In *Republic*, Plato attempted to elucidate the concept of virtue in the individual by describing "writ large" in the state. Plato's method can be adapted to the immediate purpose of explaining why some fear for the destruction and disappearance of the academic community. As the perspective fueling this fear is adumbrated, it becomes apparent that alternative perspectives are possible. The presence of nontraditional and minority students, faculty and staff on campuses has contributed to a transformation of the academic community. And that may be an occasion not for lament but celebration!

On the historical stage in the West, the movements of Community and Individualism have been warring forces. At the dawn of philosophical consciousness, Plato spoke for the state against Protagorean individualism. An observer to foundling America, de Tocqueville, commented on the tension between the two and cautioned against emphasis on the individual and democracy's excesses; more recently, Max Lerner describes a renaissance of the individual and, in an increasingly encompassing international economy, dissolution of ties that bind in favor of more fragile allegiance to the state. The patriarchal family, the guilds, and the universities were for Chateaubriand and de Maistre in France the stabilizing institutions of society and the heart of any community; for this reason they, together with Burke in England, deplored the French Revolution and its fascination with individual liberty. Their dismantling and the subsequent destruction of entail and primogeniture brought the ancient regime to its knees. The greatest fear was that a focus on the individual could only lead to the impotence of the desocialized, narcissistic free spirit some believe characteristic of present twentieth-century America. Conservative thinkers feared the change from "privilege" of access to "right." Similarly, Bloom et al. have condemned the loss of privilege resulting from increased access, and the degradation of a vision of the academy in which the legitimate objects of intellectual pursuit are insulated from a predatory market place and the ideals of pluralistic democracy. From another perspective, encompassing opportunity for all and a vision of the academy in which applied research, technology transfer, multiculturalism, and feminism are included in the curriculum is not obviously inferior to the Bloom ideal. The academic community need not disappear, but some segments of it must change. A transformation of American higher education was inevitable.

How has the presence of nontraditional and minority students, faculty and staff contributed to this transformation of the academic community? To discuss this question adequately, one must draw a distinction: minorities and nontraditional students do not form a seamless whole. The presence of minorities on our campuses is a dramatic disavowal of privilege and a further approximation of democratic ideals. Nontraditional students seek higher education to maintain or advance themselves in an American economy struggling to maintain its hegemony. It is natural, then, to discuss the contributions of each group separately.

The presence of minorities and foreign students on our campuses, coupled with an information technology that can bring events anywhere under, over or on the globe into the cheerful ambience of one's living room, has made faculty reconsider what should be included in the canon. Faculties have concluded that women's studies and ethnic studies are legitimate objects of intellectual pursuit. Non-Western societies, their histories and cultures, and gender considerations are, at a minimum, elements of any general education of quality. Affirmative efforts to recruit minority and foreign students and faculty have had the same salutary effect on an academic community as desegregation of the whole of American society. The presence of minority students and faculty on our campuses has contributed to the creation of a cosmopolitan America.

The increasing number of nontraditional students on our campuses has and will have a somewhat different transforming effect on our academic communities. Seeking promotional opportunities or career changes, the nontraditional student has brought about a further faculty reconsideration of the appropriateness of the canon and discipline major. The character of work has been irremediably altered by technology and applied science; faculty have responded by including in general education (a) consideration of how technology has affected our understanding of human existence and (b) knowledge necessary for success in the work place. Given the wealth of information, educational technologies, and the increased sophistication of the world of work, it is not surprising that faculties have reflected on the principles for evaluating previous life and professional experiences. The image of Socrates surrounded by his students must give way to an image of instruction received in the munificent surroundings of a corporate headquarters. As a logical extension of the service expected of the land-grant universities, higher education institutions are expected to be active participants in the economic life of the community, state, and nation.

Assuming that nontraditional and minority students, faculty, and staff have contributed to the transformation of our academic communities, let us celebrate our good fortune and be proud of the part we play.

3

The Liberal Arts and the Professions:

On Common Ground

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"The way in which a university should function in the preparation for an intellectual career, such as business or one of the older professions," Alfred North Whitehead wrote, "is by promoting the imaginative consideration of the various general principles underlying that career." Curricula focused only on immediately useful but ultimately ephemeral knowledge or skills fail to prepare students for "a new world of new times" because knowledge "does not keep any better than fish."[1]

Whitehead's observations, made over six decades ago, sound remarkably contemporary as debate continues over the relationship between the liberal arts and the professions. Too often, the argument centers on differences and divergences, on what appears to be a dichotomy between broad liberal learning and preparation for a career. A recent report of the Professional Preparation Network, entitled *Strengthening the Ties that Bind: Integrating Undergraduate Liberal and Professional Study*, points with concern to the current schism between liberal and professional education in most of our colleges and universities.[2] Yet that schism need not, and in some institutions does not, exist. The liberal arts, as commentators have noted for centuries, are the most practical possessions we have, providing us with the tools and background and habits of mind essential to the professions. At the same time, professional and preprofessional curricula can—and in our generation must—develop in students an awareness of multiple perspectives (political, ideological, and disciplinary) so that they will not become what Lord Robbins once called "one-eyed monsters." Years ago, E. J. McGrath argued that many fundamental skills, attitudes, and concepts can be taught in professional programs as well as in liberal arts courses.[3] That view is reflected in the numerous recent calls for integration of liberal arts perspectives into professional curricula such as law and medicine.

The challenge of integrating the liberal arts and the professions has particular significance for AASCU institutions. Historically, many of these institutions began as normal schools or teachers colleges functioning largely as training grounds for the teaching profession, much as the medieval universities of the twelfth and thirteenth centuries functioned as training grounds for the professions of law, medicine, and theology. Since the early 1960s, AASCU institutions have become increasingly comprehensive and diverse. Although most retain a strong emphasis on teacher education, many offer a wide range of undergraduate and/or graduate programs in other professional disciplines, such as business administration, social work, engineering, nursing, and urban planning. Several offer doctoral programs and/or professional programs in such areas as law and medicine. Despite their diversity, AASCU institutions as a group are unified in their commitment to liberal education as the bedrock of undergraduate programs. The challenge is to integrate the liberal arts fully into all undergraduate majors, not merely to require a fixed number of core lower-division liberal arts credits as a lifelong innoculation against vocationalism or the corrupting influence of Mammon.

Some Basic Observations

The first and most obvious step in developing a curriculum that integrates the liberal arts and professional study is to cultivate an effective working relationship among the faculties in various disciplines. Admittedly, some highly specialized accredited professional programs—engineering, nursing, music—allow little room for general education at the baccalaureate level. Nonetheless, faculty in such programs must work with their colleagues in the liberal arts to address the basic question identified by Edwin J. Delattre applicable to all academic programs: "What should be the curriculum here, in this school, college, university?"[4] The question should embrace not only the curriculum in the major, but also the content and aims of general education.

As in many AASCU institutions, the largest undergraduate program in my own university is business administration (approximately 62 percent of all undergraduate enrollments). The program is accredited by the American Assembly of Collegiate Schools of Business (AACSB). Our experience in integrating the liberal arts and professional study, therefore, has involved primarily liberal arts/business faculty collaboration. One prominent educator has characterized the apprehensions of business school and liberal arts faculty invited to work together as similar to those one might feel upon receiving an invitation to "sup with the Devil."[5] Despite such apprehensions, if they did exist at the outset, our business and liberal arts faculty have developed and now teach a core of interdisciplinary, upper-level required courses, and we believe that the benefits that have derived from this communal "supper" have been well worth the risk.

In the process of developing a curriculum integrating liberal arts and business at the undergraduate level, we have arrived at several insights of potential interest to other institutions pursuing similar aims:

1. *There tends to be broad agreement among liberal arts and business faculty about what graduates of baccalaureate degree programs should know.* When our liberal arts and business faculty first began to meet, a number of us anticipated that there might be strong differences of opinion about the meaning or "integrity" of the baccalaureate degree. Our discussions centered on the understandings and skills that should characterize the graduating student, regardless of major. What we found was widespread concern, expressed by faculty in every discipline, about students' communication and quantitative skills; knowledge of history, geography, literature, philosophy, and the arts; understanding of their own culture and of the cultures of other nations; awareness of social, political, and economic issues; understanding of values and ethical principles; and ability to analyze and synthesize. What we also found, through extensive dialogue with each academic department, was that faculty in business programs not only value these traditional liberal arts emphases but that many of them also assume responsibility for developing these skills and understandings within their own curricula. Having reached broad consensus on the importance of the liberal arts for all majors, we next had to determine how the undergraduate curriculum might be shaped to integrate liberal learning and professional study. The results of our thinking are reflected in some of the following observations.

2. *The traditional organization of the baccalaureate curriculum—i.e., lower-division general education followed by upper-division specialization—should be reexamined.* Our university—one of fewer than two dozen upper-division, graduate, and

professional institutions in the United States—has by its very nature been forced to examine closely the assumptions underlying the concepts of "lower-division" and "upper-division." Although lower-division courses traditionally include a broad array of introductory or survey courses, they are usually also equated with or defined as "general education," intended to provide a background for more specialized upper-division work in the major. Our task force questioned the assumption that course work emphasizing liberal learning should be relegated primarily, if not exclusively, to the freshman and sophomore levels. It chose, instead, to develop an integrative upper-division core curriculum, building on a traditional lower-division core, to be taken along with the major in the junior and senior years.

Specifics of our program are, for purposes here, less important than process because they were developed to respond to the needs of our particular students, the vast majority of whom enter professions in urban settings after graduation. Summarized briefly, the core comprises twelve credit hours, including humanities-centered courses in "Business, Values, and Society," "The Modern City," and "World Cultures"—all of which, as noted earlier, were developed by teams of faculty from liberal arts and business and all of which are taught by faculty from both divisions, frequently as team-teachers.

Our task force was gratified to learn, after the adoption of our core curriculum, that an NEH study group on the humanities in higher education had reached a similar conclusion—i.e., that "the idea that general education requirements should be satisfied as quickly as possible before the student goes on to the 'real' part of education does everyone a disservice."[6] The same view was expressed—with little discernible effect—over a decade ago by the Carnegie Foundation, which recommended that general education be kept as free of time restraints as possible and that integrative learning experiences be deferred to the junior and senior years.[7]

A simple response to these suggestions is to spread the general education requirements over four years rather than two. A more challenging and useful approach for AASCU institutions, however, is to define the kinds of general education courses that will be of most value to juniors and seniors, who, for the most part, will enter professional careers after graduation and for whom liberal arts should function as a context for the major.

3. *The greatest resistance to developing integrated upper-division general education requirements may come from liberal arts faculty rather than from faculty in professional programs.* A rather surprising outcome of our faculty discussions about curricular reform was the marked initial resistance of some liberal arts faculty to any change in the status quo. The reasons for that resistance became apparent as we began to examine more closely the academic profiles of graduates in each major. What we found was that liberal arts students, in general, tended to concentrate heavily (as much as 80 percent of their upper-level course work) in one subject. Business majors tended to include more breadth in course selection, largely because of the interdisciplinary nature of many business courses and the liberal arts requirements mandated by the AACSB. Because of these patterns, liberal arts students tended to interact primarily with students and faculty in the major, whereas business students had more opportunities to work with faculty and students in a variety of disciplines.

Faculty resistance to breaking the pattern of parochialism and overspecialization among many liberal arts majors was grounded largely in political, rather than pedagogical, arguments. Departments that in recent years experienced sharp declines in the number of majors (e.g., the humanities and social sciences) have tended, nationwide, to increase the number of credit hours required for graduation so that they will have a sufficient number of students in required and elective courses and so that they will not be threatened by a reduction in staff. Many faculty advisers in shrinking liberal arts departments typically channel students into courses in the major, rather than encourage breadth and diversity in course selection. Business programs, on the other hand, are burgeoning on most campuses where they are offered, so business faculty have little concern that they will have too few students in their classes if courses outside the major are required.

Predictably, faculty in some liberal arts departments who were concerned about losing students to upper-level interdisciplinary core courses had an alternative suggestion: i.e., impose additional distribution requirements at the upper level, forcing students into courses already offered by the departments. This "Chinese menu" approach to general education was rejected by our task force and, ultimately, by the vast majority of our faculty, for the very reasons cited in Lynne V. Cheney's recent publication, *50 Hours: A Core Curriculum for College Students:* "Every course in the core should be taught with other core courses in mind . . . connections [among core courses] help demonstrate that human knowledge is not a disconnected series of specialized subjects but interrelated domains of thought."[8]

A practical administrative approach in gaining the support of liberal arts faculty for teaching interdisciplinary upper-division core courses was to devise an internal "accounting" system whereby student credit hours generated by faculty are credited to the department staffing the course. In that manner, larger sections of required core courses can offset smaller enrollments in some of the department's more valued electives. (It should be noted that our integrated core curriculum, taken to referendum, eventually won the support of 82 percent of the business faculty and 72 percent of the liberal arts faculty.)

4. *There is a growing awareness in the professional community and among business school faculty of the value of the liberal arts in preparing students for careers.* In addition to surveying our business and liberal arts faculty about the appropriate content and goals of baccalaureate education, our task force also interviewed advisory board members from the local business and professional community. The opinions were virtually identical to those expressed by our faculty and by prominent professionals nationwide. Roger B. Smith, Chairman of the Board of the General Motors Corporation, for example, in a keynote address at Northwestern University stated, "A humanities background is a great advantage. It benefits the career progress of the individual, as well as the corporation in which he or she eventually finds a job." The humanities, he went on to say, provide business employees with a sense of perspective, interpersonal skills, a

respect for creativity, and effective communication skills.[9] An AT&T survey of successful business leaders, conducted several years ago, placed similar emphasis on the importance of a broad liberal arts background for corporate executives.

Over two decades ago, Dwight Waldo, in a paper entitled *The Novelist on Organization and Administration*, argued that reading novels can help organizational leaders to recognize and come to grips with some of the psychological and social implications of decision making.[10] Since then, several exemplary programs have developed that do precisely that. A nationally acclaimed program in "The Humanities and the Professions," offered by Brandeis University over the past several years to countless groups of business, professional, educational and community leaders across the country, uses literary texts as a vehicle for examining frequently encountered ethical dilemmas and career decisions. In 1987, AACSB presented an Exxon-funded award to the University of Connecticut for an innovative interdisciplinary course using major works of literature to provide students with broader perspectives on business issues. More recently, John Clemens and Douglas Mayer, two management professors, have advocated the use of classical literary and philosophical texts in business curricula to identify and foster abilities central to effective leadership, including motivation, sensitivity, and communication. The emphasis in business programs, they argue, should not be on management theories and techniques, but on understanding the human dimensions of leadership.[11]

These are all encouraging signs for business faculty seriously intent on developing curricula that will truly prepare students for success in their professional lives.

5. *Selected course work in business programs can enrich the liberal arts background of nonbusiness students.* As noted earlier, courses in professional programs of study can and should reinforce many of the skills, attitudes, and knowledge traditionally associated with the liberal arts, including communication skills, critical thinking, an understanding of the methodology and historical and theoretical underpinnings of the discipline, and an awareness of ethical issues confronting individuals in the professions.

The business curriculum, for example, typically offers course work that can be of great value to liberal arts majors as they seek to develop career skills. Recent surveys of liberal arts alumni of my own institution reveal that the majority of those graduates would have chosen again to major in the liberal arts, but 42 percent would have elected at least some courses in business to prepare them for their present positions.

In his keynote address at Northwestern University, Roger B. Smith enumerated several characteristics employees in professional organizations should be prepared to demonstrate: notably, the ability to work collaboratively with colleagues on specific tasks or problems; the ability to complete tasks within specific time frames; and the ability to use creative and critical thinking in developing innovative strategies to advance the interests of the organization. Such strategies, often the focus of case studies and class projects in business courses, should be formulated "in the light of social responsibility, human dignity, quality, and other humanistic values."[12] Thus, courses in business can serve as useful laboratories for both majors and nonmajors in integrating the liberal arts and professional study.

At our own institution, as noted earlier, we include a course in "Business, Values, and Society" in our required upper-division core. The course has been developed by faculty in business, philosophy, sociology, economics, and political science. As resources permit, the course is team taught by business and liberal arts faculty. Readings include philosophical essays and literature, as well as selected works in sociology, economics, and business.

We know from follow-up studies of our liberal arts graduates that approximately 65 percent eventually enter careers in business, and virtually all will be affected in their personal and professional lives by decisions made in the corporate sector. This interdisciplinary, integrative course provides a lively forum in which business and liberal arts students examine—and sometimes challenge—the ethical assumptions and values governing American business.

As noted earlier, there is no single, universal model for integrating liberal arts and the professions in undergraduate curricula. What is important is that faculty work together to develop courses and curricula to assist the students in their own institutions to acquire both breadth and depth in their undergraduate programs. In doing so, faculty should recognize the important contributions that professional programs can make as providers of liberal, as well as specialized, education.

Promising Developments

In their report *Strengthening the Ties that Bind: Integrating Undergraduate Liberal and Professional Study*, Joan Stark and Malcolm Lowther call on academic administrators, faculty, and external policy makers to join forces in identifying the needs of the educated professional and in developing integrative undergraduate programs responsive to those needs.[13]

On June 13-15, 1988, a landmark conference bridging the divide between business schools and liberal arts colleges was held at the Peat Marwick Main & Co. Professional Development and Research Center in Montvale, New Jersey. Cosponsored by the American Assembly of Collegiate Schools of Business and the Association of American Colleges (AAC) and funded by a grant from the Peat Marwick Main Foundation, the conference explored "New Directions in Business School/Liberal Arts Cooperation," with a particular emphasis on preparing students to live in a globally interdependent world. Participants in the conference included faculty and academic administrators from twenty-two institutions. Faculty were drawn from a wide variety of disciplines, including accounting, communications, economics, English, finance, geography, government, history, international business, international relations, linguistics, management, modern languages, philosophy, psychology, and sociology.

Although the AAC/AACSB conference focused primarily on internationalizing the curriculum, discussants covered a wide range of topics concerning the liberal arts and business. Charles P. Kindleberger, Professor Emeritus of Economics at MIT, observed, for example, that "business schools may not have enough, and liberal arts too much, ambiguity." He urged the teaching of international economics from an historical perspective. Marshall Meyer, who holds a joint appointment in sociology and management at the University of Pennsylvania (in itself a testimony to the value of integrative approaches to the liberal arts and business), exhorted his colleagues in sociology to recognize the legitimacy of teaching sociology in a business school setting, as their counterparts in psychology and economics have done. In a similar vein, Susan Strange, Montague Burton Professor of International Business at the London School of Economics and Political Science, and Louis Wells, Jr., Professor of International Management at Harvard, spoke of the value of including in business schools faculty cross-hired from the disciplines of economics, political science, sociology, and history. Proceedings of the conference also include brief descriptions of successful cooperative programs in six selected institutions.[14] Response from conference participants and sponsors was so enthusiastic that three similar regional conferences are planned for 1990. The projected topics for those conferences include business, history, and society; interdisciplinary and general education; ethics and business; and literature and language.[15]

The Professional Preparation Project at the University of Michigan mentioned earlier is noteworthy in its determination to "strengthen the ties that bind" liberal arts and the professions. A component of that project is a Professional Preparation Network in which fifty pairs of volunteer faculty, one from the liberal arts and one from a professional field, engage in dialogue about shared goals and interdisciplinary strategies to prepare both liberal arts students and business students to take up their life's work. The report of the Professional Preparation Project has drawn widespread attention from educators nationwide. Presentations of the findings and recommendations have been made at meetings of AASCU academic vice presidents, the Association for General and Liberal Studies, AAC, and American Association for Higher Education, among others, and copies of the written report are much in demand.

These promising developments seem to suggest that there are undoubtedly liberal arts and professional faculty in each of our institutions who are willing—and perhaps eager—to collaborate in developing a more integrated curriculum. Why, then, does this kind of cooperation seem to be more the exception than the rule?

Practical Concerns

It would be misleading to suggest, despite the increasing number of encouraging examples of closer collaboration between liberal arts and professional faculty, that in most institutions no barriers to cooperation exist. Among the most formidable obstacles are the following:

1. *The power of traditional academic departments and disciplines.* Glenn Irvin described what has sometimes been called the "tyranny of specialization":

> Our faculty members are specialists; almost all have been trained in research universities and hold research credentials. Their expectations are that they will be appointed and evaluated on the basis of their performance as researchers, and in fact that is commonly the case, even in institutions that have little, if any research function.[16]

Institutional—especially departmental—values and reward structures, as well as the influence of professional associations in the disciplines, have created in many institutions strong "disincentives," as they are sometimes called, for faculty to become involved in all but the most conventional teaching and research activities. Interdisciplinary teaching, teaching nontraditional students in nontraditional settings (such as the corporate boardroom), and "applied" research tend to be valued less highly in personnel decisions than teaching advanced electives within the major and publishing in discipline-based journals. And ultimately, as faculty well know, the power over promotion and tenure decisions rests in great measure on the support of the academic department. Small wonder, then, that faculty are timid about stepping across departmental boundaries without strong encouragement to do so from their departmental colleagues.

A Carnegie Foundation report published over a decade ago decried the oppressive influence of faculty peer pressure and reward systems that discouraged serious involvement in general education and interdisciplinary teaching;[17] on many campuses little has changed since then. In a recent article, Theodore Hershberg, a professor of public policy at the University of Pennsylvania, observes that parochialism characterizes most academic departments in the social sciences:

> The social sciences in our universities are organized by departments and dominated by discipline-based research paradigms that make collaborative and interdisciplinary research exceedingly difficult. The resulting scholarship usually fails to provide adequate diagnoses or prescriptions for problems as they exist full blown in the complexity of the real world.[18]

2. *Lack of commitment and involvement of senior administrators and faculty.* Although the faculty bear primary responsibility for the curriculum, senior administrators have a major role to play in providing incentives and rewards for activities consistent with the mission, goals, and priorities of the institution. The importance of the administrator's role is underscored in the findings of the recently released Professional Preparation Project report to which reference has been made several times in this essay:

> Our experience shows that success often depends upon administrative effort to mobilize a critical mass of faculty and provide visible commitment to integration. This effort must be reinforced by faculty leaders who insist that educators with dissimilar orientations can learn to work together productively.[19]

Among the factors contributing to my university's success in fostering a productive working relationship between faculty in business and liberal arts were the visible support of the president, who hosted the first weekend retreat of the task force at his summer home; the active involvement of the provost, who assembled and chaired the task force; the strong support and full participation of the academic deans in both business and liberal arts; and the vision and leadership of senior faculty members committed not only to developing a sound curriculum, but also to persuading their colleagues to support it. Had the impetus for the reform been left to curriculum committees, universally notorious for their defense of the status quo, the effort would almost certainly have languished and died of inertia or been killed off early on by vested interests. The task force's composition of influential leaders from both the administration and faculty gave the project a credibility it almost certainly would not otherwise have had.

Administrators can also influence and shape reward systems—perhaps not radically or overnight, but gradually and incrementally. If interdisciplinary teaching and curriculum development are important, deans and academic vice presidents can provide at least some released time from discretionary resources to support and encourage those activities. Administrators can work with faculty to obtain grants and gifts to support the program. In our case, we were able to secure nearly $800,000 to support the development and implementation of our core curriculum. These resources (a portion of which have been set aside to establish an endowment for general education) have been used to reward faculty teaching in the program and to enhance the core courses. Specific uses include support for faculty travel and research related to the new curriculum; travel costs and stipends for liberal arts and business faculty attending three-day, off-campus seminars focusing on texts relating the humanities and the professions; team teaching of core courses; and funds for speakers, films, library materials, and other resources to enhance classroom teaching in the core.

Other rewards are more subtle and intrinsic. The accolades our institution has received for its core curriculum, in terms of both the media and external funding, have served to validate those faculty who developed and teach in the core and to provide them with a sense of purpose not always reinforced in their academic departments.

Another major factor underscoring the importance of the core curriculum is the involvement of a number of departmental chairs and senior faculty, including eminent scholars, as teachers in the program. It is hoped that, as these faculty members review their peers for purposes of recommending promotion or tenure, they will recognize the value of interdisciplinary teaching and research.

3. *Lack of flexibility in certain accredited professional programs.* As noted previously, the curricular requirements in some nationally accredited professional programs, such as engineering or nursing, allow relatively little room for liberal arts courses—sometimes less than one-third of all undergraduate course work. Standards for accredited business programs, on the other hand, require that 50-60 percent of the business student's program be in the liberal arts. Without question, those standards helped a great deal as we sought to increase cooperation between our liberal arts and business faculty.

It would be easy to dismiss the challenge of integrating liberal arts into highly restrictive professional programs on the grounds that there "simply isn't time" to do more. On the contrary, as argued earlier, it is even more crucial in those programs to craft the curriculum with care, so that students do not merely pick up a disconnected smattering of liberal arts courses enroute to their professional degrees. By planning the curriculum together, liberal arts and professional faculty can ensure that liberal arts requirements will have some coherence, as well as breadth, and that professional courses incorporate and reinforce when possible the concepts and competencies essential to liberal learning. An encouraging sign is the fact that ABET, the accrediting association for engineering programs, has begun to work with the AAC to define the content of humanities and social science courses most appropriate for students preparing to become engineers. Similar efforts can and should be going on at the institutional level, as well.

4. *Mixed messages from employers about the value of liberal arts course work in professional programs.* Although many prominent CEOs share the views of General Motors' Roger B. Smith about the need to integrate the liberal arts and professional study, graduates all too frequently find that corporate recruiters place little value on such course work.[20]

It behooves academic leaders to acquaint institutional placement officers with both the virtues and substance of integrated course work, so that they can better convey to potential employers the value of such programs. (Toward that end, the dean of our college of liberal arts has suggested that we invite our professional staff in academic and administrative services to join the faculty in a series of reading/discussion seminars focusing on the seminal texts in our upper-division core curriculum. We plan to do so.)

It is also important that members of institutional advisory boards and trustees, who typically include influential corporate and community leaders, be made to understand the value of curricula integrating liberal and professional study. They can be of enormous help, both in influencing hiring practices in their own companies and agencies and in providing financial assistance to support curriculum reform and implementation.

Prospects

The road to effective curricular reform is seldom easy. It requires imagination, vision, commitment, tenacity, and a healthy dollop of political astuteness. On the face of it, few would argue the value of a curriculum integrating liberal arts and professional study. Yet in many institutions few have demonstrated a willingness to take the risks or devote the time and thought needed to bring such a curriculum about. When, decades ago, the business curriculum was first introduced at Harvard, Alfred North Whitehead observed that a great opportunity had come to that great liberal arts institution. Commerce thrives on imagination, he argued, and Harvard University had ample imagination to give.[21] Judging by some of the evidence noted in this article, creative and imaginative faculty in a number of institutions are finding ways in which to strengthen the ties that bind liberal arts and professional study. Whitehead would surely be pleased.

Ralph Cohen has characterized the university in which faculty cross departmental and disciplinary bounds as the "hidden University" in which creativity and imagination flourish. It is our responsibility as administrators to legitimize the hidden university, to provide a climate in which it may flourish, and to reward those who have the courage to trespass artificial barriers in search of common ground.

Notes

[1] A. N. Whitehead, *The Aims of Higher Education and Other Essays* (New York: MacMillan, 1929).

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[4] E. J. Delattre, *Education and the Public Trust: The Imperative for Common Purposes* (Washington, D. C.: Ethics and the Public Policy, 1988).

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[7] Carnegie Foundation for the Advancement of Teaching, *Missions of the College Curriculum: A Contemporary Review with Suggestions* (San Francisco: Jossey-Bass, 1978).

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[10] D. Waldo, *The Novelist on Organization and Administration* (Berkeley: University of California, Institute of Governmental Studies, 1968).

[11] J. Clemens and D. Mayer, *The Classic Touch: Lessons in Leadership from Homer to Hemingway* (New York: Dow Jones-Irwin, 1987).

[12] Smith.

[13] Stark and Lowther.

[14] *The International Dimension.*

[15] *American Assembly of Collegiate Schools of Business Newsline*, October 1989, p. 17.

[16] Glenn Irvin, "Pros and Cons: A Separate Piece for General Education," July/August 1986, *Change*, 6.

[17] Carnegie.

[18] Theodore Hershberg, "Universities Must Devote More Time and Money to Policy Research at the State and Local Levels," *Chronicle of Higher Education*, 8 November 1989, p. B1.

[19] Stark and Lowther.

[20] Smith.

[21] Whitehead.

4

The Arts and Humanities and AASCU's Mission

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AASCU institutions have come a long way from their roots as normal schools and teachers colleges. But the fundamental need for institutions that support AASCU's basic commitment to wide-ranging access is perhaps more acute than ever. However, one wonders whether the institutions that make up AASCU today can meet this need if they continue to evolve as they have in recent years.

AASCU institutions have changed markedly over the last three decades. Many have grown into research institutions of considerable size and scope, and others have developed a complexity reflecting both the increased needs and expectations of American higher education. The arts and humanities have, of course, followed suit. Sophistication, increased intellectual expertise, and a sense of participation in the full academic community, both nationally and internationally, have done much to make the arts and humanities in AASCU institutions integral parts of the spectrum of higher learning in the United States.

The Arts

Traditionally, or at least until the early 1960s, the purpose of arts education in those institutions that would eventually comprise AASCU, was basically that of training audiences. The practice of the arts was seen as an extracurricular activity, while the disciplines themselves were often contained in multifaceted departments or restricted to limited offerings. Professional education, such as it was, derived from normal school roots and centered on K-12 teachers and associated fields such as religious music. Under such circumstances, arts programs tended to be managed by one to three faculty members, which severely limited course offerings, production possibilities, and ensemble offerings. In the case of theater, the program would be subdivided into an element of a larger speech and dramatic arts department, speech department, or in some circumstances, the English department.

As AASCU institutions have become more complex and competitive, professionalism in the arts has increased significantly. Professionalism has taken many forms, but the most telling is the expansion of the arts into much larger departments with instrumental and performance specialties. These departments are multitextured, reflecting the many subcultures of the American art scene in general. Departments of theater—which previously might have had one basic generalist who taught theater history, acting, directing, etc., and perhaps a shop technician who did all designing, costuming, and building—now have specialists in each of these areas, all with professional training and, in many cases, commercial experience. In music, it is not uncommon for faculty members to have wide-ranging ensemble experience and highly dedicated specialties in specific instruments, choral music, or vocal training. Many AASCU institutions are now capable of mounting full symphonic bands or orchestras. Moreover, AASCU institutions are often able to offer terminal degree preparation in the arts because the master's degree, or less in some cases, is considered sufficient in many arts areas.

In research institutions, humanistic studies of the arts such as musicology, theater history and criticism, and art history are sometimes sufficiently elevated to be divided into departments or areas of their own. The exception would probably be theater, in which, until fairly recently, the Ph.D. was the terminal degree. Theater departments with this requirement were essentially humanities departments in which the application of the discipline was not primary. In AASCU institutions, by contrast, competence in the practice of the arts seems paramount. Their arts never underwent a scholarly application phase and do not seem inclined toward it now, moving instead directly from training audiences to training professionals.

Many of the arts departments that currently flourish in AASCU as professional training grounds insist on less general education with more professional training, and a concomitant rise in the number of hours a student must take in order to graduate from the institution. A notable example would be the accreditation standards of the National Association of Schools of Music, which frequently result in five or six years of undergraduate education. Students in these programs find their basic requirements extensive because of the many subspecialties of music needed in order to display competency for graduation. The requirement load is further exacerbated by the necessity of a significant number of prerequisites in order to participate in ensembles. Music students are not generalists, but rather highly trained and skillful musicians with exposure to other disciplines usually limited to general education requirements or professional education courses. In theater, a B.F.A. degree requires 70+ hours in most institutions, leaving much less than half of the student's course work for electives and general education. The demands of the program outside course work are often as difficult and as necessary, leaving students with a limited amount of time and energy to pursue the more broadening aspects of the curriculum. The same, in some respects, could be said of art. Extracurricular time must be spent developing proficiency and class-related projects in order to satisfy professional expectations. In all of the arts disciplines, regular forms of assessment, such as portfolio review, end-of-semester performance juries, and/or other forms of production performance, are a continuing reality in the student's progress through the curriculum. However, it should be remembered that students who go into the arts are not usually generalists by nature. They may become generalists later in life, but their early motivation is centered on a singular devotion to the art in question. These students have clear career goals on arriving at the university and see other aspects of their education as unnecessary and abstract.

The arts are certainly vital; for many communities, the local university represents the only source of exposure to fine arts. Furthermore, as the arts have matured as disciplines, the quality of offerings has improved significantly. But it must be kept in mind that many faculty see these disciplines as primarily professional rather than devoted to general education or arts appreciation. Thus, while arts departments continue to offer requisite general education courses, such classes are seen as a necessary burden and far removed from the true purpose of the discipline.

The Humanities

In the humanities, although the role of teaching remains central in AASCU institutions, a strong tradition of scholarship is making inroads. In part this trend is a result of more qualified young faculty available. As a delighted chair in a large institution noted:

> When we recently filled a position we had 240 applicants. Ten applicants had books either already published by reputable presses or about to come out. Our new hires are better than anyone already on faculty.[1]

This development is no doubt important, but it is another indication that AASCU is not what it was. Years ago a colleague, who has been head of the English department at the University of Missouri at Columbia, told me that publication and the pressure for publication were not considered essential before World War II. That, of course, is no longer true in research institutions or in many AASCU institutions. Publication generally seems required for tenure, and significant publication is required for most full professorships. On the one hand, such changes are salutary; on the other, they take traditional AASCU institutions from a greatly needed realm of service and deposit them at another level that may not be essential to the communities that support and depend on them. The ability to handle large numbers of students in need of higher education and to emphasize teaching above all else is being supplanted by an emphasis on scholarship and research.

American institutions of higher learning are famous for their skills in research and their international scope. Jean-Jacques Servan Schreiber, in a recent discussion of the leading nations in the world, noted:

> First Japan and Southeast Asia. . . . Then you have Germany in Europe and Sweden. Then the American universities. I wouldn't say America because such a great part is illiterate. But higher education in America is unique in the world.[2]

The difficulty with this assumption is that graduate education seems to be in a world unto itself. The needs of undergraduates, at least anecdotally, appear to be less than adequately satisfied by large research institutions, and the same might be said of AASCU institutions with similar aspirations. An almost schizophrenic reaction to this concern seems to grip some of our campuses. Recently, for example, it was my unpleasant task to alert a department in our university that tenure and promotion were not possible without at least some publication. This statement seems totally defensible now, but for faculty members, many of them very senior, who had devoted their academic lives to teaching and service, the statement was harsh. Moreover, the phenomenon of pay compression for senior faculty in many disciplines is exceedingly frustrating. Younger, research-oriented people, join the faculty at salaries senior people cannot hope to match. Thus, years of devotion are made to appear valueless.

The humanities faculty have rising expectations, both for themselves and the students they teach. Yet the students are not living up to these expectations. Many faculty see before them an unlettered multitude of students in need of training, but without the prerequisite skills. AASCU is truly devoted to access. Yet many faculty members are frustrated by teaching those who are not prepared for college work. The problem is particularly acute in the general education core. Faculty members complain that students want immediate job skills rather than an education and that they are unprepared for the general education curriculum.

Unfortunately for AASCU's mission, many institutions have moved toward selective admission. In part, such moves are academic self-defense; they result from enrollment caps stemming from high demand and limited facilities. This is a predicament because many institutions are required by mission, and to some degree by statute, to provide open admission. Thus, large groups of students in need of remediation are placed in a holding pattern until they reach an appropriate level of academic preparation—or give up. Moreover, because the permanent faculty is frustrated by "marginal" students, they are often taught by temporary or part-time instructors whose connection with the institution is limited and short in duration.

These students are, for better or worse, essential to the economy. The labor force of the coming decades will be drawn from those with a post-high school education. But these students are rarely taught by mainstream, tenure-track faculty; young

Ph.D.s with promise are allowed to abandon even lower-division instruction as soon as more recently hired faculty take their places. The frustrations of teaching basic humanities were simply not in their career plans.

A Mission in Need of Reexamination

Essentially, the rise of professionalism and a generally more prepared faculty seem to be pulling many AASCU institutions, at least in the arts and humanities, away from the traditional idea of access. Yet the needs of the country and the changing make-up of prospective students have made access more important than ever. The major question of the next decade may center on how to satisfy the needs of the labor force while pursuing and maintaining disciplinary quality.

Recently, the professoriate has undergone criticism for inattention to teaching, partially as a result of frustration with the nation's technological slippage. Nonetheless, American higher education remains an enviable model throughout the world; our research productivity is one of the primary reasons for this reputation. Thus, AASCU institutions must be able to provide access and quality teaching without sacrificing professionalism and scholarly achievement. Dedication to teaching, especially undergraduate teaching, seems to remain paramount in AASCU institutions, but not all undergraduates are being considered; the increasing numbers of underprepared students are relegated to special preparatory divisions with carefully structured remedial courses. This need for an intermediate step is certainly one reason for the rise in community college enrollments.[3] And if AASCU institutions no longer choose to mainstream these students, perhaps the idea of access must be redefined to include only those capable of performing at the baccalaureate level. Perhaps we must be prepared to deal with a bifurcated university; those who cannot succeed in the normal curriculum must be relegated to a post-high school experience taught by specialists in remediation and counseling. At the moment, this appears to be a daunting prospect; but there are encouraging signs. The public is obviously concerned and much recent political rhetoric has centered on the needs of education. AASCU institutions and their missions are ready for reexamination and the moment, therefore, seems propitious.

Notes

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[2] Jean-Jacques Servan Schreiber, "Training The Minds, The Only Essential Job," *American Thought*, Winter 1989, p. 2.

[3] In Kentucky, for example, community colleges increased enrollment 35 percent from 1985-88, according to Kentucky Council on Higher Education

5

Science and Technology

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> Science is not technology, it is not gadgetry, it is not some mysterious cult, it is not a great mechanical monster. Science is an adventure of the human spirit. It is essentially an artistic enterprise, stimulated largely by curiosity, served largely by disciplined imagination, and based largely on faith in the reasonableness, order, and beauty of the universe of which man is a part.[1]

When we graduate students who understand this concept and appreciate the fundamental role science plays in their education and their lives, our institutions will have been successful in achieving their mission. We will have provided our students with one of the fundamental pillars of an arts and science education: a base from which to make choices—a base they will need as members of an informed citizenry.

In this era of the "new technologies," it behooves us all to understand and appreciate the role science plays in our present, has played in our past, and will play in our future. For the citizen, "science" and "technology" are often synonymous, for technology is the artistic and creative expression of science—the expression of science through invention and application to our day-to-day lives. Michael Baer, past president of the Council of Colleges of Arts and Sciences (CCAS), captured the essence of our role in science/technology in his final address to CCAS in which he discussed C. P. Snow's famous essays and lectures on the "two cultures."

> Our concern today must not be just with intellectuals. We cannot talk in American higher education about the literary culture and the scientific culture because most of our students do not and will not belong to either. Yet they can and should be informed citizens who communicate, as needed, intelligently across areas both scientific and humanistic.
>
> We have moved into an era where technology may be overshadowing, not just the humanities, but the basic sciences as well. All of us and our students cope with the product of this technology . . . when we ride computerized elevators,

> utilize banking machines . . . when we register for courses by Touchtone phones, or when we write on a word processor. Yet how many of our students understand the basic principles of the technology they use, or the ethical questions posed by the use of this technology in daily life, or, in business, in agriculture, or in the medical professions?[2]

As institutions of change and of access, we AASCU members have a clear and important responsibility to be certain that our graduates have a basic understanding of scientific principles, have developed a value system that will allow them to fully appreciate the alternatives they will face, and the educational depth to make informed decisions.

All too often, the role that comprehensive colleges and universities (CCUs) should play in science and technology is equated to their role in establishing and maintaining a viable economy. Though this role is one of the more important that we play, we should never lose sight of the fact that one of our primary roles is to produce educated students who have an appropriate grounding in the professional courses needed to begin and grow within their careers, and who also have the arts and science foundation necessary for continued growth and development throughout their lives. We should provide our students with an educational foundation that allows them to make choices, to choose from among the many paths we each continually cross in our journey through life. Though the focus often becomes blurred as we are pulled, pushed, tugged and nudged by our various constituencies, we should never lose sight of our primary mission.

That concept is simple—its achievement more and more difficult. We are all experiencing unprecedented demands for our services and perturbations in our educational environs. We are now part of the "global village," an unknown concept a decade ago. Many of us are partners in newly developing "metro-cities/urban villages." We are in the age of the "new technologies" and our institutions play an important role in the shift from a "smokestack/heavy manufacturing" economy to a "service based" economy. In this emerging environment, the role of science and technology is of ever-increasing import:[3]

- The service-based economy currently evolving will continue to grow and expand. By the year 2000 we can expect to find, depending on our locale, that 80-90 percent of employees will be in professional (white-collar) positions. In the areas directly relevant to science and technology, the vast majority of the positions will be in engineering, health related fields, and the natural sciences;

- Though we will be experiencing a decrease in employment needs of as much as 50 percent in the manufacturing sector, the needs for technical training and education will increase dramatically for the employees in this segment;

- According to current trends, the National Science Foundation (NSF) predicts that the United States will produce 700,000 fewer engineers than it needs by the year 2006—a shortfall of approximately 40,000 engineers per year;

- A similar deficiency is already apparent in computer science, in which NSF predicts a shortfall of as many as 100,000 computer scientists per year by the early to mid-'90s;

- The states and our regional communities are "demanding" that we play an increasing role in establishing and maintaining a dynamic and viable economy and are also turning to us for help in solving many social problems: problems of the young and old, problems in the K-12 education sector, problems of the aged and the handicapped.

And we have internal shifts that will affect what we do, how we do it and how successful we will be:[4]

- The 68,000 plus science and engineering faculty on our campuses are aging; today, only 27 percent of them are under the age of forty;

■ Academic positions have become less attractive, a result of increased competition from the industrial and governmental sectors and a decrease in the competitiveness of the salaries we are able to offer:

- From 1970-1985 there was an increase from 36-48 percent of new graduates with Ph.D.s in science who accepted industrial positions. Concomitantly, for example, there was a decrease from 19-8 percent of new Ph.D. graduates in chemistry who indicated an interest in an academic position;

- Ph.D. production in science and technology areas has experienced a slight decrease since 1969 from 11,825 per year, to 11,069 per year but this is largely the result of our acceptance of a greater percentage of foreign nationals into our doctoral programs, an increase from 17-26 percent from 1978-88 and an increase that is growing at the rate of 6-9 percent per year. Today, 50 percent of our doctorates in mathematics, 43 percent in computer science, 52 percent in engineering, and 32 percent in the physical sciences are awarded to noncitizens.

■ Our students come to us with inappropriate training and with a prejudice against science that is a product of our educational system:

- Only 40 percent of Americans take at least three years of science in high school; only 30 percent take three or more years of mathematics. This percentage pales in contrast to the USSR, Japan, and West Germany where 98 percent of all high school students achieve these standards;

- One-third of our high schools offer no physics courses, and those that do often have one course and one teacher in this subject area; only one in five high school students takes a physics course;

- Only 6 percent of our high school graduates take an advanced course in science in contrast to 28 percent in Canada;

- Only 45 percent of our high school graduates take a chemistry course, and virtually none of our graduates take an advanced chemistry course, in contrast to one-sixth of those in other countries;

- Science scores for 9-, 13- and 17-year olds continue to be well below those of the same cohort in 1969. There have been minor and sporadic improvements at various times between 1969-88, but we continue to produce students who lack an understanding of and an appreciation for science and mathematics;

- Just a little over 5 percent of students planning on going to college indicate an interest in majoring in science or mathematics—a 50 percent drop in interest over the last two decades;

- From 1966-88, the percentage of freshmen majoring in mathematics dropped from 4.6-0.6 percent; engineering dropped from 12-8.6 percent over the same time period;

- In 1,000 graduates from our colleges and universities, only 7 are engineers. In this area we again lag far behind the Japanese, who produce 40 engineers per 1,000 graduates;

- It will take a 50 percent improvement by the year 2000 for the United States to match the Japanese and the Europeans in functional literacy, general science, and worker training.[5]

There are also those who think our institutions have become too insular; that we no longer react quickly enough to meet society's short- and long-term needs; that we no longer provide the broad based education needed by society; and that we have become too involved in matters external to the academy—foremost among them, economic development.

I would argue that our institutions have evolved to meet these new demands and expectations and will continue to do so. Our public and private comprehensive institutions enroll approximately 47 percent of all baccalaureate students in higher education—an increase of 26 percent from 1970-76 that continues to grow today. We award over one-half of the bachelor's degrees in this country and over 50 percent of the master's degrees. We are responsible for over 34 percent of the credit-hour production in science and mathematics and produce more than 30 percent of the future Ph.D.s in these fields:[6]

- We graduate 58 percent of the chemistry majors and 60 percent of the physics majors;

- We graduate 32 percent of those students who eventually earn doctorates in chemistry; 22 percent of those who earn doctorates in mathematics and computer science; and 22 percent of those who earn doctorates in the biological sciences;

- We graduate 29 percent of the women who go on to earn doctorates; 49 percent of the African Americans; 48 percent of the Hispanics; and 45 percent of the Native Americans.

Our role in science and technology education is significant and must expand—it is a role that cannot be ignored. But what must we do to ensure our continued success in fulfilling this dimension of our mission?

■ Science and technology education is expensive, a result of the modest student-faculty ratio required for instruction and the laboratory and equipment needs of the disciplines. Therefore, we must work to provide an environment supportive of our mission and role. We must work to improve funding to CCUs from the federal and state levels, and we must continue to expand our partnerships with regional business and industry.

- The level of funding at CCUs must be improved and maintained at a level that is equitable and appropriate to our missions. In a fiscal sense, we provide the "critical center" in higher education.[7] Because we are able to educate approximately one-half of the students in four-year institutions at a reasonable and cost-effective level, we provide the fiscal flexibility needed by the states to fund their research institutions and two-year institutions at levels appropriate to their missions.

■ The role of the CCUs in research must continue to develop. The term *faculty member* (at colleges and universities) envelops the teaching and research/scholarship dimension. We need faculty who are scholars in their fields and teachers within their disciplines. This dualism is essential to the health of the faculty member, the timeliness of our programs, and the needs of our communities.

- We must continue to work to provide faculty with the resources necessary to their success: time, staff support, equipment, space and other items.

■ We must continue to work to maintain a teaching force, from kindergarten through the university level, which has the science and technology background that meets society's needs:[8]

- The recruitment and retention of excellent faculty at all educational levels must become a major priority;

- Our institutions must become full partners with the K-12 educational sector in providing enrichment experiences in science and technology to attract students into science courses and career tracks; outreach efforts to these educational sectors must become a higher priority for each of our institutions;

- We must expand our current efforts in two important areas: improved teaching materials and pedagogical research.

■ We must work to provide a curriculum and programs in science and technology that will be relevant into the late twentieth and early twenty-first centuries by providing:

- An earlier introduction to science and mathematics courses (the incorrect perceptions held by most students about science and mathematics must be changed);

- More time, at all levels, in these courses;
- A commitment to attracting underrepresented groups into careers in science and mathematics teaching: women, minorities, and the physically handicapped;
- A commitment to enhance our efforts at incorporating the "new technologies" into our curricula: hardware and software, comprehensive databases, satellite transmission and instructional television, networks, and interactive video, among others.

■ From a broader perspective, we must become full partners in our communities and take a more proactive role in working with them to solve problems of mutual concern:

- Our communities will be experiencing an increased need for the baccalaureate degree as the minimum requirement for employment in the decades ahead. We must continue to work aggressively to attract undergraduate and graduate students to our campuses by providing the faculty, programs, courses, and environment conducive to an enriched and successful education;
- As the student population shifts and the "nontraditional student" becomes the majority student in the academy, our approaches to working with the differing and diverse needs of this cohort must continually be improved: evening programs, weekend programs, part-time programs, distance learning, and applied graduate programs;
- Our role in providing an appropriate mix of resources and an environment that ensures a dynamic and vital state economy will be of ever-increasing import;
- We must ensure that our programs provide the background and preparation needed to work within an environment of increasing cultural diversity;

- We need to continue to expend the energy necessary to provide an informed, inquisitive and sophisticated citizenry.

We can achieve this desired future by:

■ Maintaining a commitment to our historic mission and role with an emphasis and focus on faculty who are dedicated teacher/scholars;

■ Emphasizing the need for an appropriate vision for our institutions—an appropriate and achievable mission;

■ Maintaining the flexibility to evolve with the times and the fiscal flexibility to continue to function and develop through times of adequate and less than adequate funding;

■ Forming true partnerships with our communities—becoming part of them, informing them of our needs, continually clarifying our role, and sharing our dreams.

What we should aim at producing is people who possess both culture and expert knowledge in some special direction. Their expert knowledge will give them the ground to start from, and their culture will lead them as deep as philosophy and as high as art.[9]

Notes

[1] Author unknown.

[2] M. A. Baer, "The Two Cultures and the Buy Quiet Program," *Council of Colleges of Arts and Sciences Newsletter*, November-December 1988.

[3] Data taken from: (a) E. Schick, *Educational Needs in the Baltimore Region*, University of Maryland System Office, August 1989. (b) The National Science Board Commission of Precollege Education in Mathematics and Technology, *Educating Americans for the 21st Century*, September 1983. (c) Statement before the Committee on Commerce, Science and Technology of the U. S. Senate by A. Bromley, Director of the Office of Science and Technology, Executive Office of the President, July 1989. (d)*The Higher Education Economic Development Connection: Emerging Roles for Public Colleges and Universities in a Changing Economy* (Washington, D.C.: American Association of State College and Universities, 1986). (e) Editorial, *The Baltimore Sun*, 2 September 1989.

[4] Data taken from: (a)*The Science Report Card: Elements of Risk and Recovery*, Educational Testing Service, 1987 and 1988 editions. (b) *Research Corporation Bulletin*, Research Corporation, Fall 1987. (c)*Wingspread: The Journal*, The Johnson Foundation, Vol. 10, April 1989. (d) Editorial, *The Sun*, 24 July 1989.

[5] "The Study on Education in American Cities," *Business Week*, 1989.

[6] Data taken from: (a) *Research in Public Comprehensive Colleges and Universities: Fact Sheet*, California State University System's Office, August 1987. (b) See footnote 4b above. (c) Editorial, *Science*, 12 February 1988, p. 705. (d) *A Classification of Institutions of Higher Education*, Carnegie Foundation, 1987.

[7] From the Towson State University Mission Statement, Hoke Smith, August 1989.

[8] Taken in part from *Formula for Reform: The Role of the Comprehensive University in Undergraduate Science and Engineering Education*, AASCU/NSF, 1988.

[9] A. N. Whitehead, *The Aims of Education and Other Essays* (New York: MacMillan, 1929), as quoted in J. Stark and M. Lowther, *Strengthening the Ties that Bind* (Ann Arbor: University of Michigan, 1988).

6

Scholarly Activity, Interdisciplinary Team Teaching, and the Professional Vitality of AASCU Faculty

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At long last it is time to celebrate an effective union between professional vitality and powerful teaching, between scholarly activity outside the classroom and real learning in the classroom. The key to this union and the catalyst for a new understanding of both scholarship and teaching is the interdisciplinary faculty team. Interdisciplinary team teaching, properly done, is the foundation on which AASCU institutions can maintain and revitalize faculty commitment to both the classroom and the discipline, stimulate innovation, and transform the curriculum.

A dichotomy between scholarly activity and teaching is at the core of academe. Strong is the rhetoric of scholarship as research contributing to the classroom, but weak is the reality. A focus on scholarship as peer review can liberate institution and faculty alike from the dichotomy, transforming rhetoric into reality. Interdisciplinary team teaching will engage AASCU faculty in scholarly activity to which they can reasonably aspire, and in so doing maintain their professional vitality, restructure the undergraduate curriculum, and address the essential elements of good instruction in the college classroom.

Scholarship and Teaching: Rhetoric and Reality

To say that scholarship and teaching are dichotomous or opposing is to refute what most academics say. It is a commonplace of academic life to repeat the tired phrases of scholarship contributing to the classroom. The renowned research chemist working on the frontiers of knowledge is evoked as the classroom teacher bringing insight and wisdom to the ordinary undergraduate.

Although this image seems too far-fetched even for the strongest defender of traditional scholarship, research is advocated as the means by which faculty maintain their intellectual vigor. It is argued that faculty who do research are more intellectually alive and more effective in their teaching. There is no attempt to argue that the researcher is on the frontiers of knowledge. There is little effort to argue that his or her research is even important.

This fallback argument is necessary because at research institutions, faculty who work on the frontiers of knowledge are deliberately exempted from the routine demands of teaching in order to pursue their scholarly work. They may have a few graduate assistants; they may even have an occasional senior seminar. They rarely come anywhere near the typical undergraduate major to say nothing of the ordinary student taking "Sociology 101" to meet a general education requirement. The dichotomy between scholarship and teaching is well understood.

By no means is this or any other statement herein an argument against either research or the research university. Research as carried out at these institutions is often vital to the progress of humankind or, where not vital, at least valued by society. There is an argument against the pretense that teaching and research are necessarily connected. Under this guise, millions of undergraduates have been hoodwinked into thinking they were getting a good education and millions of taxpayers, parents, and donors hoodwinked into supporting research when they thought they were supporting education.

In this light, it is better to argue that traditional scholarship promotes faculty vitality and faculty vitality benefits students, but this argument is no basis for advocating research and not much of an argument for supporting it. If it is necessary to summon up teaching as justification for unimportant research, then one has to wonder whether it would not be more appropriate to drop the research altogether and focus only on teaching. In fact, scholarly activity, even when not contributing significantly to the field, can be intellectually significant for the faculty member and, for that reason, worth doing even if the impact on teaching is only indirect. But it is just as true that good teaching is worth promoting and faculty development worth doing even if the faculty involved do not do anything anyone would call scholarship.

AASCU Institutions and the Shibboleth of Scholarship

At some AASCU institutions, faculty do not engage in any traditional scholarship at all, few contribute to the frontiers of their fields, and few gain much intellectual vitality from research.

Most are engaged in scholarly activity and publication, significantly if not primarily, to enhance their opportunities for promotion and tenure. This is not news, but that is no reason to continue, much less promote, the practice.

The tragedy of AASCU institutions' emphasis on "scholarly activity" is its derivation from the research university's definition. The research university's definition of scholarship is not, or should not be, at the core of AASCU's academe. Because the teaching loads of research university faculty are far lighter than those of AASCU faculty, the notion is ludicrous. At research universities, a typical faculty teaching load may be six hours or fewer per semester, and includes graduate students to correct papers and lab books. At an AASCU institution, the load is typically twelve hours and usually without the assistance of graduate students.

No wonder that AASCU faculty members can aspire to little more than an apparently second-class version of scholarly activity. The deck is stacked against them. They have been forced into a game with rules by which they cannot win. What is amazing is how many AASCU faculty are active scholars in the traditional manner, publishing articles and even books.

AASCU faculty should not, however, have to perform feats to preserve their dignity and professional integrity. AASCU faculty members should not have to perform at research university standards in a primarily teaching environment. They should not in fact have to engage in any traditional scholarly activity at all, but what scholarly activity does occur should be understood primarily in terms related to teaching.

AASCU institutions need to begin by casting off definitions of scholarship that only allow for experimenting in the laboratory, gathering facts from the archives, and surveying the urban poor. AASCU faculty need to be allowed to cast off their guilt about publishing few refereed articles and no acclaimed monographs. There are other ways to maintain the intellectual qualities of faculty as teachers.

Fortunately, there is a definition of scholarship that maintains its fundamental purpose, promotes the intellectual vitality of faculty as teachers, and therefore relates much more clearly to the mission of the AASCU institution. It is a definition that makes real the rhetoric of scholarship contributing to teaching.

Scholarship as Peer Review

At the heart of scholarship is the development and presentation of the scholar's ideas to her or his peers for response and debate. This is the principle of the university press and the refereed journal, but it need not be manifested solely as papers presented or articles and books published. Understood as peer review, scholarly activity can be oral or written, but it cannot be only for the classroom or take place only in the classroom. It is an activity one carries out with one's peers—but not necessarily in traditional research and publication.

Scholarly activity at the AASCU institution could include research, but it should also include participation in a faculty lecture series, legislative testimony, exhibitions, and performances. Major reports from campus committees and curricular proposals brought before one's peers at the department, college, and university level surely fit any definition of peer review and at times stimulate far more intellectual exchange than the proponent might desire. There is no reason why these activities must be considered merely *service*, the least regarded of academe's core triumvirate.

A definition of scholarship that focuses on peer review liberates AASCU institutions from the shroud of the research university, prepares them for scholarly initiatives more closely related to teaching, and leads to significant innovation in the teaching enterprise. This transformation is best founded in a commitment to interdisciplinary team teaching.

Interdisciplinary Team Teaching, Professional Vitality, and Faculty Workload

A more generic definition of scholarship, emphasizing peer review, begins to reconnect scholarship to teaching but still fails to address the twin problems of faculty vitality and workload. With their teaching loads, AASCU faculty do not on the whole have a reasonable amount of time to engage in even scholarship outside the classroom that might contribute to revitalization of their teaching.

To put it another way, if so many faculty fall into weary syndromes of lifeless teaching and yellowed lecture notes, the solution is not to require that they spend more time on scholarship outside their teaching, even if that scholarship contributes to their teaching. The challenge is to get faculty interacting as peers, exchanging ideas, disagreeing on ideas—that is, developing each other as scholars within the context of their teaching and as part of their teaching, not as an add-on to their teaching. Many faculty will respond in the short term to creative opportunities that demand time beyond their regular teaching loads, but most faculty, understandably, will not sustain such a commitment over the long term.

To propose interdisciplinary team teaching as the primary antidote to the malaise of AASCU faculty is not to propose the team-taught course, interdisciplinary or otherwise. In fact, the team-taught course is a design for failure. Over the long haul, team teaching will not succeed. The problem with the team-taught course has to do with both money and faculty energy. There are essentially two ways of crediting a team-taught course to the faculty: (1) each faculty member is given credit for teaching an entire course; and (2) each faculty member is given credit for teaching his or her percentage of the course—one-half, one-third and so forth.

The first approach of double and triple credit is fine with the faculty and may even be appropriate to the work of coordination and additional learning, but it is unsustainable administratively. Although administrative commitment may allow for such lavish use of faculty time in the short run and with a small number of courses, in the long run, the approach is too costly. It self-limits its own expansion because the more faculty who do it, the more costly it becomes. Even with few faculty engaged, it is too obvious a target of cutbacks in times of budgetary shortfalls.

On the other hand, allocating faculty only their percentage of the total credit is a recipe for burn-out. Excited by the opportunity and the intellectual stimulation of team teaching, faculty are at first so eager to participate that they are willing to accept only half credit or less. But with teaching loads already heavy, they are not going to be able to keep it up. Partial credits are as guaranteed as double and triple credits to destroy the initiative. It would be better not to try team teaching at all than to do it with team-taught courses.

In a different way, the serially taught course is nearly as unsuccessful. In this method, the faculty respond to the load problem by not really team teaching at all. Instead, under a common title, different faculty come into class to lecture on a series of topics. Sometimes, a fair amount of planning goes into coordination of the topics and readings, but even this may fall by the wayside. Typically, each faculty member comes in, does her or his thing, and leaves. It is unusual for one member of the "team" ever to hear the lecture of any other member of the team. This approach may offer some advantages over the traditional introductory course in the humanities, the social sciences, or a discipline, but it is not team teaching.

Interdisciplinary team teaching may take many forms other than the team-taught course, but the most successful include: (1) the coordinated studies program, as pioneered at The Evergreen State College in Olympia, Washington; (2) the learning community/master teacher model, as developed at the State University of New York, Stony Brook; (3) the cluster model, notable at a number of different colleges; and (4) the paired course, also employed at many institutions across the country.

The Coordinated Studies Program

In the coordinated studies program, the institutional student-faculty ratio may be applied directly to one "program" because both students and faculty sign up for only one full-time coordinated curricular offering. Students register for one program. Faculty teach one program. For example, 80 to 100 students are assigned, at a 20 (or 25)-to-1 ratio, to four faculty.

These mathematics make the small class possible. Because the students are full time, faculty in effect get credit for teaching four or five courses to the 20 to 25 students assigned to them on a pro-rata basis. The faculty thus carry their credit-hour load and still have small classes. For example, a faculty member might normally teach four courses with 15 students in one, 20 students in another, and 40 students in two others at three semester hours per course (3x15)+(3x20)+(3x40)+(3x40) for a total of 345 student credit hours. In a coordinated studies program, she or he teaches 23 students carrying 15 semester hours each for a total of 345.

This does not mean an increased teaching load for faculty. Three factors make it possible to avoid excessive workloads: (1) part of the weekly schedule includes lectures that only one faculty member delivers while the others attend; (2) three semester hours, and sometimes more at the upper division level, are devoted to independent study within the program format; and (3) because the same group of students is assigned to a given faculty member for all discussion and workshop sections over a given time, the faculty member is meeting intensely with a small group for only six to nine hours a week.

The dynamic factor in the coordinated studies program, that which makes possible not only close student-faculty contact but also much of the intellectual stimulation of the faculty, is the commitment to interdisciplinary teaching and learning. The coordinated studies concept works because each faculty member teaches not only in his or her own discipline but also in the disciplines of the colleagues in the team. Underlying the concept is the assumption that every faculty member is educated well enough to lead at least a freshman-sophomore activity in a liberal arts curriculum. In a given week, for example, a faculty member in anthropology teaching in the "Society and the Computer" program could well give a one-hour lecture in her or his field, listen to two other lectures in political science and computers, and then lead a three-hour seminar in political science and anthropology, two two-hour workshops in essay-writing, and a two-hour workshop in computer programming (for twelve hours of attendance, ten hours of active teaching).

Crucial to successful teaching in this format is the faculty seminar. Faculty cannot go into a student seminar or workshop outside their discipline without any background. They, like all the students, have the lecture given by the faculty leader or expert in the field. But in addition, the faculty have had the opportunity to discuss the material alone with their faculty colleagues in the team's faculty seminar. There, the leader guides and responds. The other faculty question and challenge. Most faculty regard this seminar as the intellectual high point of the program's activities.

In the faculty seminar, faculty have the opportunity for the kind of peer exchange characteristic of scholarly activity. If the exchange involves more than one discipline, it is often more challenging to the participants. Discussion can be heated; it strikes at the heart of what academe holds most dear: the struggle for the hearts and minds of future generations.

The faculty seminar can nonetheless be relatively sedate compared with the act of planning a coordinated studies program. In the practical activity of deciding which topics will be covered, which books will be chosen, and how many lectures will be given by which person, the battle lines can be most strongly drawn. Limited by time, concerned that their own perspective is properly represented and their respective subject areas properly covered, faculty must bring forth and defend their ideas. Peer review is automatic, immediate, and very real, with very real consequences. Failure to convince means that one's ideas will not be heard, lectures will not be given, books will not be read. Few scholarly exchanges in traditional formats can match the dynamism of the coordinated studies' planning process. It retains its energy even when the same faculty teach the same program more than once.

Thus will faculty teaching a program called "The Susquehanna River" have to decide how much time will be spent studying the development of the lumber and mining industries that polluted the river (history and economics), water pollution (chemistry), the gradual destruction of life in the river (biology), the different societies that have lived along the river (anthropology, history, literature), and what it would take to bring the river back to life (political science, economics, chemistry, biology), and writing about it all along the way (composition). There are only so many hours in the week and so many weeks in the semester. Choices have to be made. Planning becomes a crucible of intellectual vitality rarely matched anywhere in academe.

Learning Communities, Clusters, and Paired Courses

Although the coordinated studies program is the most powerful model of intellectual exchange and faculty development in interdisciplinary team teaching, it diverges most dramatically from traditional ways of teaching and learning. There is no question that it can be emulated in its entirety at traditionally organized institutions. The Washington Center for the Improvement of the Quality of Undergraduate Education, based at The Evergreen State College, has demonstrated this through its consortium of many schools in Washington and around the country. So seriously does the program undercut traditional relationships and formats for teacher and student, however, that it is understandably not appropriate for many schools, at least as a way of team teaching.

Learning communities, clusters, and paired courses are more practical, requiring little divergence from traditional scheduling. In the learning community, three courses are identified as related in some way, usually by topic. "Nineteenth-Century British Literature" (English), "An Economic History of Industrial Britain" (economics or history), and "Politics and Individualism in Britain from 1815 to 1914" (political science or philosophy) might be three such courses. Twenty to 25 students would take each of these courses together but not necessarily be the only students in any of the classes.

The critical innovations of the classic learning community are the unifying seminar and the master teacher/learner. In addition to the 20-25 students, a faculty member with full released time for the semester takes the three courses and leads a seminar with those students to pull together the material of the three courses. This faculty member is both *learner*, with the students in the classes, and *teacher*, who assigns and evaluates papers the students write on the common topic for the learning community seminar. At SUNY, Stony Brook, the faculty member is called the Master Learner. Examples of the three courses are "General Genetics," "The Healer and the Witch in History," and "Philosophy and Medicine," and the seminar might be called "Social and Ethical Issues in the Life Sciences."

Faculty may participate as much or as little as they wish in designing the courses to coordinate with the others in the learning community, but most do participate. The nature of the model virtually requires each to acknowledge the teaching going on in the others. Students are gathering other ideas. Challenges are implicit. Faculty become involved.

Faculty development derives not only from interaction among the faculty, including the teacher/learner, concerning the ideas, but also from the presence of the teacher/learner in the classroom. The teacher/learner experiences the classes much as the students do and with all the same problems that may occur. The faculty have the opportunity to learn more about their teaching from the Master Learner. The exchange of ideas can, and often does, become as much about pedagogy as the subject matter of the courses themselves. In some cases, where problems arise between students and faculty in the classes, the teacher/ learner serves a facilitating role for the students.

Yet another model, less expensive than the learning community because it does not give a faculty member released time, is the *cluster*. In this model, students also take three courses in some way related, but then take a composition course as the means of integrating the ideas of the other courses. The subjects of the first three courses become the topics about which students write in the composition class. The composition instructor, who may be the coordinator of the cluster, becomes the integrator for the students.

Though a still more traditional model, the cluster is extremely powerful in its impact on faculty as well as students. Often even more deliberate than the learning community in its coordination, it requires faculty to work together at least in their planning of courses. In fact, it generates a community of committed faculty exchanging ideas among their peers about matters of common interest and concern. The fact that it not only preserves the traditional course structure but is also inexpensive makes it especially attractive to the typical AASCU institution.

Finally, *paired courses* are effective in stimulating exchanges of ideas among faculty to a degree equaling or exceeding the activity of traditional scholarship. This model requires simply that two faculty teaching two different courses have students assigned in common. Any course, from sociology to art to biology, can be paired with English composition. Sociology is a more obvious match, but the humanities and social sciences are not the only possibilities. In the teaching of writing, there is no reason that lab books or journals cannot serve as effectively as essays or research papers.

In fact, two courses from any two disciplines can be paired just as in the cluster or learning community models. The advantage of the paired-course model is that the faculty plan and teach in close coordination. Two faculty get together because they are going to teach together. The exchange of ideas is exciting. It is critical, however, that both administrators and faculty resist the temptation to team-teach a single course. Administrators must resist the temptation to get more teaching time out of the same faculty, and faculty must resist the temptation to teach one course for half-credit when an administrator will not let them teach together any other way. The two courses must be paired, not combined, with each student getting six to eight credits, not three or four.

Revitalizing Undergraduate Education

Interdisciplinary team teaching is the single most powerful vehicle available for vitalizing and revitalizing faculty at most AASCU institutions, and other institutions, including research universities. Traditional research, and even scholarship as sometimes more broadly defined, either does not exist or is not going to be effective in stimulating the vitality necessary to sustain the faculty of AASCU institutions over the long-haul of twenty, thirty, and more years of a career.

Faculty planning and teaching together are engaged in activities not only in true scholarship, but also scholarship directly in the service of teaching. Clusters and course-pairing preserve the control of the single faculty member in her or his classroom and thereby reduce the intensity of interaction and review, but even there, coordination of topics and readings results in stimulating and exciting intellectual exchange. The full-fledged coordinated studies program is more powerful, but the results are guaranteed in each case: faculty are revitalized psychologically, intellectually, and professionally.

A faculty more intellectually alive is inevitably also more alive in the classroom. Team teaching would guarantee better teaching if it did no more than change its practitioners. Yet it inevitably does much more than that: it changes what and how teachers teach. The implications for curriculum and classroom practices are apparent. Interdisciplinary team teaching, on the other hand, is more integrated. Rather than take two or more courses that may be related but may never be *seen* as related, students address topics from the perspectives of different disciplines that are deliberately intertwined. There is an opportunity to see how the philosopher and the psychologist understand the individual differently, the chemist and the sociologist see truth and facts differently, the artist and the physicist perceive light differently. Through comparison, each discipline is understood better, each topic understood more fully.

Interdisciplinary team teaching makes a curriculum more coherent. As disciplines are related through topics, it becomes possible to build a general education curriculum around goals and objectives rather than course requirements. The goal should not be to have students take three semester hours in biology and six semester hours in anthropology but to help them understand connections among disciplines.

Interdisciplinary team teaching breaks down authoritarian models of student-faculty relationships in favor of collaboration and dialogue. It also tends to break down authoritarian conceptions of imparting knowledge. Faculty who find their ideas challenged by their colleagues come to question the absoluteness of those ideas for their students as well.

Interdisciplinary team teaching promotes student involvement and active learning. At the point when faculty no longer know all the answers and become more comfortable with not knowing all the answers, the lecture ceases to appear as the most desirable form of instruction. Although there is no rule that team-taught programs must make greater use of interactive teaching techniques, seminars, discussion groups, and workshops, they always seem to do so. Although the lecture mode is specifically preserved in the learning community, cluster, and paired-course formats, it is used less and less as faculty open themselves up to alternative perspectives and even begin to learn from their students. As the ideas of peers from other disciplines are increasingly validated, so also are the ideas of students.

Interdisciplinary team teaching promotes closer contact between students and faculty. In the coordinated studies model, this is most apparent as faculty lead discussion and review papers with the same group of students in different subjects for nine hours a week rather than the usual three or four. Although these hours of contact are not built into the other models, the students designated as part of a learning community, a cluster, or paired courses seem inevitably to develop closer relationships with their faculty. They are special to their faculty. In the more open exchange of ideas, students in interdisciplinary team offerings cease to be just like other students as they become instrumental to the revitalization of their faculty.

Ultimately, to some extent, in the interdisciplinary team-taught program, *students become peers.* In the long run, an important reward of interdisciplinary teaching becomes the prospect of dynamic interaction with students. Professional vitality derives not only from activity outside the classroom but also from activity inside the classroom. The synergism has come full circle from scholarship in the service of teaching to teaching in the service of scholarship.

7

The Role of Scholarship in Serving the Mission of AASCU Institutions

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Among the many changes in American higher education in the last half-century, none has been more significant than the change in the normative conceptions defining quality and success in the academic profession. The hallmarks of the academic revolution described by Jencks and Riesman were the professionalization of the faculty role and the emphasis on research that accompanied the rise of the university and the dominance of the graduate professional school.[1]

Strong meritocratic norms grounded in the graduate programs of the academic disciplines specify that research is the central focus of professional activity; autonomy and peer review are essential to the preservation of professional quality; the pursuit of knowledge is best organized along disciplinary lines; and specialization is the surest route to professional rewards. It was the institutionalization of these norms in the 1960s which solidified research as the dominant standard by which the quality of colleges and universities was to be assessed. Today, in large measure, faculty, administrators, and governing boards, as well as the public at large, equate institutional quality with the level and visibility of research activity.

As one might expect in the period since WWII, the ideal conception of faculty as teacher-scholars deeply concerned and involved with issues of student learning and development has been downgraded and has all but disappeared. Scholarship became research and research became the single most valued part of the professorial role. While the majority of faculty produced little or no published research, such activity became the overriding standard by which faculty came to judge themselves and their colleagues as professionals.[2] Increasingly, universities have come to be seen and valued as centers for the production of knowledge rather than for learning. In addition to making heavy investments in research laboratories and libraries, universities recruited and rewarded faculty more on the basis of their competence and productivity as researchers than on their interest and skill at teaching.

This pattern extends far beyond the major research institutions and has been conditioned by several factors. First, most senior administrators and faculty leaders at many nonresearch institutions received their training and primary faculty experience at research-oriented doctoral universities and thus have internalized research as a valued activity and, just as important, as a standard of quality. At the same time, the increasing restrictions on hiring at major research universities led to the availability of research-oriented faculty for other colleges and universities. Traditional teaching institutions became the major source of jobs for graduates of doctoral programs at research universities. In the sciences, high-quality lab facilities and the availability of federal and foundation grants to faculty at primarily undergraduate universities served to further stimulate the level of research activity at these institutions. The stunning increase in the number of journals, conferences, and publishers has fueled the fire.

The impact on faculty values and behavior has been a powerful force in narrowing the definitions of quality and in focusing university actions. Other, more localized factors have also added energy to the rush to university status, to the compelling desire to imitate the university model.

The Comprehensive University

The story is familiar. The highly respected teachers college finds itself challenged with enrollment pressures, demands to serve a broader constituency, and the need to add programs beyond traditional teacher education. The faculty are pressing for resources to support research. Soon the institution becomes a state college and then, after an interval of continued growth and expansion, it becomes a university. This history, or at least parts of it, reflects the evolution of a significant portion of AASCU institutions. Other institutions, created more recently to serve enrollment pressures, are designated universities or colleges and told to pursue an expansive, comprehensive program of offerings. Thus is born the comprehensive college or university.

Like the middle child in a creative and energetic family, AASCU institutions have struggled to find an identity that is theirs alone. As noted earlier, David Riesman suggested in *The Academic Revolution* that the future of higher education would be dominated by the "hegemony of the research university." The ultimate implication of this was that all colleges and universities would use the research university as their models for growth and development. Faculty would be judged more on scholarship than teaching; resources would be funneled into the pursuit of scholarly production; faculty would flee the classroom to meet "publish-or-perish" pressures; and promotion and tenure would be dominated by a research-based elitism.

This change would be made in the name of *quality*, supported by the assumption that high levels of scholarly activity would result in higher quality education, greater visibility and credibility for the institution, and greater funding. AASCU institutions have gone down this path thus rejecting a unique identification and often becoming merely a pale imitation of the research university.

The higher education literature is filled with analysis and expressions of concern over this topic and related issues.[3] It is obvious that scholarly activities play a greater role in the life of faculty today than twenty years ago. But it is not clear whether we have a good sense of what this means specifically for AASCU institutions as they prepare to enter the 1990s.

Definitions

If the purpose of "research" activities at AASCU institutions is to ensure faculty vitality, then it is essential to look at what constitutes this activity. "Research" implies that individuals should be pursuing basic research. Research, in this case, consists of new and fundamental additions to the body of knowledge in a discipline. These activities are modeled on what faculty learned in graduate school or what faculty believe to be the function of their colleagues at research universities. In reality, recent studies indicate that far less than half of research university faculty are actively engaged in what might be termed research.

This extremely narrow definition excludes other significant activities that can contribute to faculty vitality and effectiveness. Certainly it is highly desirable that AASCU faculty pursue traditional research if possible. However, teaching loads and limited resources often make this impossible. The lack of graduate assistants, research assistants, grant writing support, editorial support, research equipment, and travel budgets frustrate those who limit their work to traditional research activities.

One of the paradoxes of this issue is that the limitations found in AASCU institutions are, in a manner, emancipating. Institutional leaders need to support the scholarly function in its broadest construction to gain desired benefits. The core question is—what are we trying to accomplish? If it is to support the teaching function, the primary mission of AASCU institutions, then we are poorly served by frustratingly narrow definitions.

Ernest Boyer in his well-known book *College: The Undergraduate Experience in America*[4] speaks to this issue with clarity:

> While not all professors are or should be published researchers, they, nonetheless, should be first-rate scholars. We understand this to mean staying abreast of the profession, knowing the literature in one's field, and skillfully communicating such information to students. To weaken faculty commitment to scholarship, as we define it here, is to undermine the undergraduate experience, regardless of the academic setting. Further, the results of such scholarship should be made available for judgment. There are many ways to do this: Apart from publishing books, monographs, or articles in journals, a scholar can write textbooks, participate in conferences, develop new approaches to instruction, and, most especially, be more effective in the classroom. In one or a combination of these ways, such activities should be evaluated by peers. How else can we judge whether a faculty member is staying professionally alive?

Scholarship is not an esoteric appendage; *it is at the heart of the profession.* All faculty, throughout their careers, should remain students of their disciplines. As scholars, they must continue to learn and be seriously and continuously engaged in their fields.

The word *scholarship* thus indicates a broad range of intellectual activities that maintain a faculty member's currency and participation in the critical issues of the discipline. AASCU itself has recognized this for some time; in "The Core of Academe"

James E. Gilbert, president of East Stroudsburg University, stated:

> Although a university may be committed to the idea of being a "teaching institution," that concept cannot be fulfilled apart from a similar commitment to scholarly activity. Scholarly activity has three components—research, scholarship, and creative endeavor—whose principal foci are oriented toward the academic program of the university and are carried out by individual faculty.[5]

These activities are vital to the university and to its academic program and have an impact on the student as a learner. They are a very real part of the instructional process. Through undergraduate studies, the student is constantly moving toward more and more independent learning; research and creative endeavor are necessary elements in the learning process. Students must have models of ongoing scholarly activity in which they can see the possibilities for their own creative talents. Faculty engaged in scholarly activity provide those models. In this sense, scholarly activity is an integral part of teaching. Scholarship ranges from such simple and inexpensive efforts as presentation in departmental colloquia through such traditional activities as a refereed journal article. This continuum of scholarship is a rich and varied set of activities for generating essential faculty vitality.

Stereotypes and Scholarship

In their pursuit of the research model, AASCU institutions have stumbled into an unfortunate stereotype. Many academics and critics feel that little productive research occurs on AASCU campuses and that which does occur is not useful. In a recent interview in *AAHE Bulletin* David Riesman expressed his doubts about intellectual life on AASCU campuses:

> An aspirant state college wants to become a "real" university; that is, have a doctoral program. Many of the faculty are barely capable of teaching upper-division courses. Most of them have never supervised a doctoral dissertation. But they

> say to a young woman or young man who is assiduous and compliant, "Why don't you stay with us? We have instituted a new doctoral program in the humanities, and we think you would do very well there. In fact, we can offer you x thousand dollars." And this invitation comes in a situation that is not competitive, where there is not a great deal of recruiting. So I can see a whole cohort of professors in the future who hardly ever had a really inspiring conversation with anybody.[6]

Anyone who works at a comprehensive public university will find these comments bothersome and, of course, untrue.

If, however, one judges AASCU institutions solely by research university criteria, then it is not unreasonable to say that, in the main, AASCU institutions fall short. The level of research productivity is far lower and basic research is not usually affordable. For this reason it is easy to see why AASCU institutions have been stereotyped as fundamentally ineffective and inadequate in their research activity. But to conclude that because a campus is not performing at research university levels in terms of research that it is intellectually dead is bizarre.

This view results from using an inappropriate set of standards. It also reflects the opinions of individuals who have spent little time on AASCU campuses and have not carefully reviewed who is writing articles in journals or giving papers at conferences. The AASCU campuses tend to be buzzing with ideas and bursting with energy. The lack of a doctoral program or the use of a wider variety of intellectual outlets should not be construed as indicative of an intellectual wasteland. To do so misrepresents the largest single grouping of institutions in American higher education, trivializes the teaching function, and distorts the values of the academy.

A recent research project conducted by the authors showed that AASCU institutions divide into three significant groups when categorized on the basis of research activity. One group of institutions focus their research and scholarship on discipline-based activity, which contributes to faculty vitality and teaching. A second has a highly applied nature, with faculty busily engaged in technology transfer, information transfer, consulting, and public service. A third, the most traditional, consists of institutions modeling themselves on research universities. They tend to be larger institutions.

It is clear that no stereotype is appropriate. In practice, stereotypes fall apart and a complex and rich variety of views and practices emerge. The same research, based on reports by academic vice presidents, revealed a very active faculty deeply engaged in scholarly pursuits. It appears that the concomitant stereotype of a Mr. Chips lecturing from yellowed sheets is also an erroneous image.

The research also showed that a majority of AASCU campuses have active scholars whose work is primarily aimed at supporting the broad mission of a comprehensive university. The following list shows the percentage of vice presidents for academic affairs who report that at least half of the faculty are engaged in the activities listed.

- Read current literature in one's discipline—91.1
- Attend professional meetings related to one's discipline—84.3
- Deliver invited presentations to non-professional groups—56.5
- Read papers at professional meetings—55.1
- Provide service to professional societies (e.g., officer, committee member)—40.4
- Publish books or articles for professional audiences—30.7
- Review or edit material for professional publication—30.3
- Consult with public or private organizations—24.7
- Produce, exhibit, or perform creative works—23.2
- Publish books or articles for non-professional audiences—19.5
- Publish textbooks or other teaching material—16.1
- Review grants or contracts for work that does not lead to publication—14.2
- Conduct contract research for public or private organizations—10.8
- Create and market professional products (e.g., inventions, software)—4.2

Assertion, Not Apology

Because of the stereotype applied to AASCU institutions and because of the dominance of the research university model, AASCU leaders find themselves apologetic for the lack of basic research at their institutions. This behavior is nonproductive and conceptually inappropriate and undervalues the contributions of comprehensive universities.

AASCU institutions occupy a critical and independent role in higher education. As comprehensive universities, they serve a variety of constituencies and provide essential intellectual and cultural support for their regions. This traditional service function is at the heart of the critical role AASCU institutions play. But service is just another form of information transfer. This broadened view of teaching adds additional logic to the function of scholarship as a means, not an end, at comprehensive institutions. This proud and productive role should be a source of institutional pride and a logic for seeking funding. AASCU institutions stand side-by-side with research universities in meeting the varied educational needs of our citizens.

New Definitions, New Freedoms

Ernest Lynton and Sandra Elman in *The New Mission of the University* have provided the most coherent description of the broader role of AASCU institutions. Their effort identifies the information transfer or technology transfer as the core purpose of AASCU institutions. This role occurs, of course, at its most fundamental level in the classroom. It also occurs when the campus provides educational outreach to the community. This function, originally the sole responsibility of land-grant institutions, has become integral to the purposes of AASCU institutions and the value they bring to the community.

AASCU institutions are integral components of their locale and culture. Their focus on serving regional concerns through information transfer (teaching) in all its forms bestows upon these institutions a role that is independent of the values and the behavior of the research university. The public comprehensive university is essential to its community and can accomplish this responsibility only if it defines its mission, and particularly its scholarship mission, as being fundamentally different from the research university.

Thus, the freeing of AASCU institutions depends on a two-part conceptual breakthrough by the leaders and faculty on our campuses:

1. Scholarship must be seen as a rich continuum of intellectual activities that is a means, not an end.
2. Teaching must be defined in broadest possible terms.

If one accepts these precepts, then the role of AASCU institutions becomes primary and distinct, not derivative of the activities of a research university.

Need for Institutional Change

If new models and definitions of scholarship are adopted by AASCU institutions that break free from the tyranny of the research university model then it is necessary to change the way the comprehensive university behaves. The broadening of the definition of research to include all scholarly activities that generate faculty vitality and contribute to the information transfer function has direct implications for resource allocations, hiring decisions, evaluation processes, promotion and tenure, and other reward structures.

Faculty search and selection processes should incorporate a balanced view of a possible faculty member's scholarly potential and teaching capacity. Letters of recommendation should comment on both. Interviews should include a teaching exercise so that the department members have knowledge of an individual's presentation skills. Letters of appointment need to reflect expectations for both teaching and scholarly activity.

Orientation of new faculty takes on a special meaning. During an orientation session, faculty should be given clear information about the nature of the institution, the type of students they will encounter, what the institution expects of them, and how promotion and tenure will define and evaluate quality. If AASCU institutions are serious about adopting a new and more appropriate model of scholarship and teaching, then changes will have to occur in the most fundamental aspect of faculty life: the reward structure.

Many university presidents talk about the importance of teaching, applied research, and public service. Yet promotion and tenure processes, and the priorities and values embedded therein, are more appropriate to a research university. This cynical and confusing approach demoralizes faculty and misdirects resources within the university toward basic research and nonteaching activities peripheral to the university's mission.

It will take considerable courage and energy from the leaders of AASCU institutions to assess their institutions, review the mission, engage the discussion, and produce change. Yet if these institutions are to be of maximum value to their communities, there must be a coherent and holistic view linking mission, scholarship, service, and teaching.

Recommendations

Scholarship at AASCU institutions in the 1990s should serve the fundamental purpose of the public comprehensive university—information transfer. If it does, then AASCU institutions will emerge from the shadow of the research universities and establish more clearly their unique identity as intellectual and cultural resources for their regions. To accomplish this, institutions should do the following:

1. *Redefine research.* Research should be redefined to mean *scholarship*, a broad concept including all activities that enhance faculty vitality and contribute to the teaching function. At base it includes all those activities that reflect a faculty member's active public participation in the ongoing dialogue of his or her discipline.

2. *Redefine teaching.* Too often, the importance of teaching is given only lip service. AASCU institutions should define teaching as information transfer—any activity resulting in the transfer of knowledge. It should be the primary faculty function, and that priority should influence all faculty activities and university allocation decisions.

3. *Revise the reward structure.* The reward structure is still dominated by traditional research norms. The quality of teaching

must be assessed effectively and that information should contribute in a significant and clear manner to the hiring, promoting, and tenuring of faculty. Scholarship is essential to achieving the rewards, but it must be linked to teaching.

This seems like a heroic and unattainable agenda. It is not. The majority of faculty at AASCU institutions would embrace these redefinitions gladly because they fit reality.

High faculty workloads, scarce resources, limited graduate programs, commitment to access, centrality of economic development, service of cultural needs, etc., all make it impossible, perhaps foolhardy, for AASCU schools to try to emulate research universities. If leaders of AASCU institutions can learn to celebrate what their institutions *are* and pursue the redefinitions suggested, they will free the creative energy of the faculty and make the university an exciting, energetic, and valuable resource for its community.

Notes

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[3] Ann E. Austin and Zelda F. Gamson, *Academic Workplace: New Demands, Heightened Tensions*, ASHE-ERIC Higher Education Research No. 10 (Washington, D.C.: Association for the Study of Higher Education); Michael S. Bassis and Allan E. Guskin, "Building Quality: Research and the Regional Institutions," *Change*, 18:4:57-61; Alan W. Lindsay and Ruth T. Neumann, *The Challenge for Research in Higher Education*, ASHE-ERIC Higher Education Report No. 8 (Washington, D.C.: Association for the Study of Higher Education); and Ernest A. Lynton and Sandra E. Elman, *New Priorities for the University* (San Francisco: Jossey-Bass, 1987); Peter Seldin, *Changing Practices in Faculty Evaluation* (San Francisco: Jossey-Bass, 1985).

[4] Ernest L. Boyer, *College: The Undergraduate Experience in America* (New York: Harper and Row, 1987).

[5] James Gilbert, "The Core of Academe: Teaching, Scholarly Activity, and Service" (Washington, D.C.: American Association of State Colleges and Universities, 1987).

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8

Continuing Education

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American higher education is the most diverse and admired system of postsecondary education in the world. The combination of land-grant public universities, regional state colleges and universities, independent institutions of higher education, and community colleges creates for citizens an unparalleled array of educational opportunities.

Part of the reason for the esteem in which American higher education is held is the service and continuing education commitment of public colleges and universities. Nowhere among institutions of higher education is this commitment more an instrumental portion of the institutional mission than among the members of AASCU. Although many four-year institutions of higher education subscribe to a tripartite mission of teaching, research, and public service, in no other sector is service more important than in member institutions of AASCU. These state colleges and universities are distinctive because, unlike many other higher education institutions, they are constantly evolving in response to the needs of the community and region.

The antecedents of service and continuing education can be traced back several hundred years to Europe. Efforts were underway in England in the eighteenth century to teach elementary skills to working people.[1] University extension activities in the United States began in the 1880s with efforts to make schooling available to adults and focused on the *lyceum*, which had been utilized in England.[2] The lyceum originally was designed to disseminate practical information, upgrade social morality, educate the expanding electorate and improve the common schools. It was later revised to include additional benefits.[3] As extension activities expanded, organizations evolved to share ideas and enhance these efforts. One such organization, the University Association, was said by its president, Samuel Fellows, to have originated in 1873 at Illinois State University, a longtime AASCU member.[4]

The Morrill Acts of 1862 and 1890 also had substantial impact on the service and continuing education mission of state colleges and universities. The social and economic fabric of the nation was changing, and state colleges and universities were well-positioned to respond to the diverse educational needs and interests of society. Even though all colleges and universities were not eligible for Morrill Act funds, most institutions of higher education responded with a variety of curricula and numerous services to address area needs. As a result, states began to regard public colleges and universities as good investments because the economic benefits exceeded the initial investment.[5] Consequently, activities during the last half of the nineteenth century set the stage for the substantial service and continuing education commitment of AASCU institutions today. Growth in the number and size of public colleges and universities in the twentieth century enabled these institutions to respond to citizen needs in both rural and urban settings. The rapid expansion of knowledge has created significant demands for training to keep individuals current professionally. This phenomenon is expected to continue and make the role of continuing education even more pivotal.

As the twentieth century closes, AASCU colleges and universities can be found engaged in numerous service and continuing education activities. The following list illustrates the range of activities underway:

1. economic development
2. elementary and secondary education outreach
3. special services for communities
4. professional development programs through conferences, institutes and short courses
5. library lending services
6. film and visual aid services
7. summer school programs
8. extension classes
9. adult learning/reentry programs
10. correspondence courses
11. lecture and cultural series
12. older adult programs
13. evening/weekend classes
14. residence center activities
15. broadcasting services.

Each AASCU college or university could prepare its own narrative about how it is responding to each of the above. The examples cited below provide a brief glimpse of the types of activities conducted by AASCU campuses in response to societal need for these services.

1. *Economic Development.* Services of AASCU institutions are made available to attract new industry as well as enhance the viability of existing businesses. Faculty and staff expertise is marshaled to assist individual businesses or whole communities. These efforts have attracted international businesses to specific regions as well as invigorated the economic climate of areas. For example, the services and presence of an AASCU university contributed significantly to a recent decision by a multi-national corporation to locate an automobile assembly plant in a midwestern state.

2. *Elementary and Secondary Education Outreach.* AASCU institutions traditionally have been very responsive to the needs of elementary and secondary education. Many of the nation's teachers and school administrators are graduates of AASCU colleges and universities. Strong educator-alma mater linkages continue to exist through inservice programs, consulting, curricular review processes, and feedback exchanges. Increased attention is being given to the educational needs of minorities and to ways to reduce the high attrition rate of blacks and Hispanics in the public schools.

3. *Special Services for Communities.* As communities face myriad problems, the services of AASCU institutions are being increasingly called upon to assist in finding solutions to these challenges. Some colleges and universities have community research services outreach programs to help respond to demographic, social, environmental, and fiscal problems. A few institutions are requiring community service from students as part of baccalaureate degree requirements. Most campuses and communities witness numerous public-service activities by student organizations throughout the year.

4. *Professional Development Programs.* As a result of commitment, expertise, and location, AASCU institutions play an important role in sponsoring and/or hosting conferences, institutes, and short courses. These noncredit and credit activities provide a valuable vehicle by which important professional

development information is shared with diverse constituencies. As knowledge continues to expand, campus faculty and facilities provide an attractive, cost-effective setting for such activities.

5. *Library Lending Services.* AASCU institutions usually have the largest library holdings in their geographical areas. A commitment to service together with a knowledge of the prohibitive cost of independently maintaining certain types of collections and publications has encouraged the development of numerous library lending services. In many cases, library patrons can obtain a desired item from an AASCU library within twenty-four hours of the time a request is submitted.

6. *File and Visual Aid Services.* AASCU institutions are the administrative centers and depositories for numerous film libraries and visual aid services. The purchasing power of budgets can be extended appreciably through cooperative efforts involving a number of schools and communities.

7. *Summer School Programs.* AASCU institutions traditionally have offered summer school programs to school teachers, administrators, and others to upgrade their credentials or improve themselves professionally. Special summer session programs are also being offered today to enrich the educational background of high school students who intend to go to college.

8. *Extension Classes.* AASCU institutions have a long history of "delivering" courses to students who could not come to campus to enroll. Although in earlier years much of this type of education was provided for "place-bound" teachers, increased numbers of offerings are being provided for people in the corporate world, sometimes at plant or other work sites.

9. *Adult Learning/Reentry Programs.* The fact that many people are "stopping out" of their college education has caused numerous AASCU institutions to establish adult learning/reentry programs. These special services help able adults overcome their apprehension about returning to college by minimizing bureaucracy and providing special support services aimed at reducing anxiety about starting or returning to college. With an increasingly older society, the result will be fulfilled, satisfied, and productive members of society.

10. *Correspondence Courses.* Improved instructional and electronic technologies have enabled individuals in remote locations to enhance their educational backgrounds through correspondence courses from AASCU institutions. As a result of more efficient means of transmitting information, people in remote locations or others with highly specialized areas of interest are able to expand their knowledge of a particular subject through correspondence study.

11. *Lecture and Cultural Series.* The reservoir of talent on a campus together with the types of individuals brought to an AASCU campus to speak or perform provides enormous benefits for the community or region of which the campus is a part. Many of these activities are free to the public while others are available at a more modest cost than would be the case if the institution were not sponsoring the event. Such activities not only provide an opportunity for adults to broaden their educational or cultural horizons but also offer an excellent opportunity for interchange between campus and noncampus constituencies.

12. *Older Adult Programs.* With the majority of the population moving from middle age to elder adult status, AASCU institutions have attempted to provide programs designated especially for this group. In some cases, no tuition is charged for older citizens who enroll in classes on a space available basis. Institutions aggressively seek to host Elder Hostel programs. Outreach activities for homebound or nursing home residents are also provided. Unique programs utilizing the skills and knowledge of retired faculty, staff, and executives are also emerging to capitalize on the talent of this population as well as to provide services for those who are less able to care for themselves.

13. *Evening/Weekend Classes.* AASCU institutions have long provided evening classes for schoolteachers and others whose work schedules precluded enrolling in classes during the day. In many cases, individuals have been able to complete entire degrees through this program. Recently, burgeoning enrollments at AASCU institutions with limited facilities have extended the traditional class day. This circumstance has also enhanced the options for evening and weekend classes for traditional and nontraditional students.

14. *Residence Center Activities.* The increasing interest in education in this nation has encouraged many AASCU institutions to offer courses and programs away from the main campus. This usually has been done in response to the educational needs of a particular community or region. New instructional and electronic technologies have enabled a variety of courses to be provided for adult populations. In some cases faculty members travel to these centers. In other circumstances, faculty reside at the center or the instruction is delivered through two-way interactive video with up and down link capabilities at each location.

15. *Broadcasting Services.* AASCU institutions have a wide variety of broadcasting outlets to help fulfill their service and continuing education mission. Many have AM and/or FM radio stations, and some have television stations through which they deliver public-service programming. A combination of local programs combined with the Public Broadcasting System (PBS) offers many citizens a meaningful alternative to commercial radio and television. Some AASCU colleges and universities are also using broadcasting facilities to provide instructional programming for public schools in their region.

Today competing demands force state colleges and universities to make hard choices about the amount of resources that should be allocated to teaching, research, and public service. Forces within as well as outside the campus compete vigorously for the time, energy, and funding to promote their particular interests. Unless the institution and its leadership have established a definite plan for subdividing resources among teaching, research, and public service, administrators are often perplexed when making resource allocation decisions and criticized for those decisions after they are made.

One of the best ways for an institution of higher education to respond rationally to competing demands is to formulate some sort of strategic plan focusing the energies of the institution on a specific set of objectives or themes. Although strategic planning may take many forms, three essential planning elements are: (1) completion of an environmental scan, (2) identification of specific strategic opportunities emanating from the environmental scan, and (3) correlation of opportunities with existing or emerging strengths of the university. This process can help the institution focus its public service as well as teaching and research efforts on fewer objectives. In addition, strategic planning can clarify for people, both on and off campus, what goals the institution most desires to pursue and can provide a focus for fiscal decision making. Furthermore, such budgetary decisions, if consistent with the outcomes of strategic planning, can be better understood and accepted by those not involved in, but affected by, the decision-making process. In this type of setting, public-service activities that are most consistent with the institution's strategic plan can be pursued while, more defensibly, others can be assigned lower priority.

In addition to competing demands, public colleges and universities will face greater accountability for services in the next decade. Therefore, public-service activities must be structured to include objectives whose outcomes can be measured. Such objectives must take into account more than the financial balance sheet; they must also be linked to learning outcomes or other results anticipated from the program. Public service activities will be better perceived and more favorably embraced if information attesting to their success is available.

In conclusion, the concept of service distinguishes American higher education from its foreign counterparts. AASCU institutions especially are committed to providing service to their community, region, and state. The fact that AASCU institutions continue to evolve in response to their threefold mission of teaching, research, and service makes them especially adaptable to the needs of society. Through the service commitments of AASCU institutions, knowledge has been transmitted, culture has been enhanced, and economic conditions for many individuals, communities, and regions have improved. Today, competing demands and accountability make the service and continuing education missions of AASCU institutions more problematic. However, with adequate attention to planning and measurable objectives, colleges and universities can continue to provide important public-service programs for the many constituencies that look to them for assistance.

Notes

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[3] Carl Bode, *The American Lyceum: Town Meeting of the Mind* (New York: Oxford University Press, 1956) pp. 21-23.

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9

Economic Development and AASCU Institutions:

An Examination of Roles and Critical Questions for State Policy Makers

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Economics as a discipline is the study of *scarcity*, of how societies make choices concerning how to use their limited resources. This chapter addresses the scarcity of resources and how they are allocated at midsize colleges and universities in the United States and the effect on local, state, regional, and national economic development. Of particular interest will be questions not only about the functions of institutions—such as providing access, education, training, research, and technology transfer—but also issues of institutional structure including organization, culture, resource allocation, and compensation systems.

Economic development generally refers to the expansion of employment opportunities, increases in productivity, and enhancement of the state's economic base to significantly increase total state product relative to its population, as measured by output per capita. In this regard, economic development entails more than adding jobs; it denotes an increase in net economic product. Thus, economic development is associated with an increase in real income (wages and other) and concomitant expansion in the tax revenue base. From a governmental perspective, economic development is usually seen as the major mechanism for maximizing citizens' welfare through enhancement of the quality of life and of generating tax support for high-demand state programs.

Because of the potential impact of successful economic development, nearly all areas of the country have established economic development programs and initiatives. Thus, whatever efforts a state makes take place within a very competitive environment (both inter- and intra-state). In Jacksonville, Florida, for example, the port has lost automobile import tonnage from Japan and Europe to competitors in south Georgia and Charleston, South Carolina. Suppliers moved because of differentials in direct port costs and increases in apparent damage to automobile finishes from industrial pollution. A different example is Mayo Clinic's choice to locate in Jacksonville because of the availability of related facilities and the relatively high quality of life northeast Florida currently enjoys. These examples illustrate that economic development is fundamentally intertwined with the overall quality of life, natural and economic environmental characteristics, and market position.

One of the critical elements in the matrix of characteristics that affect economic development is the quality of education. Literature shows that all levels of education play key roles in attracting and retaining desirable employers as well as highly qualified professional and technical employees. Traditionally, the focus in the economic development literature has been on technology transfer and technical, vocational, and professional education.[1] Critics of higher education focus on colleges' and universities' apparent inability to keep abreast of technological innovations and the implications for employment. This rather narrow criticism tends to reflect the limited role higher education institutions are believed to play in full-fledged economic development. As Kaplan has noted, universities must focus on total community development if they are to be effective participants and serve the public trust.[2] More specifically, higher education traditionally provides:

- liberal and professional education
- job-related training
- research
- community service and technical assistance
- support of K through 12 and adult education through teacher preparation
- cultural and civic activity
- technological innovation and distribution.

This list highlights many critical roles universities serve that are by nature relevant to economic development. First, a university is a *magnet for intellectual capital.* To the extent that a university attracts bright students who then remain in the region, it becomes a recruiter for manpower of high quality. Similarly, to the extent that local talent attends a university near home, higher education can act to reduce the loss of native intellectual skill.

Recruitment and retention of intellectual talent bespeaks a need for a strong student recruitment function committed both to serving the local community and to attracting non-local clientele.

In fact, the more effective the recruitment and retention effort, the more capable the institution of performing the critical economic development function of increasing the community's intellectual capital. Unfortunately, there is an inherent conflict between the role of colleges and universities as recruiters of intellectual capital and the pressure states face in funding higher education. Out-of-state tuition differentials, limitations on the numbers of students who can be recruited from out of state, and "caps" on enrollment reduce the effectiveness of public universities and colleges as providers of manpower. Furthermore, the latter restriction often results in elitist admission practices, adding further conflict, especially as it concerns affirmative action and the need to meet educational demands of a stable, mature, and often place-bound population. Native intellectual capital can remain untapped in this situation.

Second, a university acts as an *engine of technological innovation*. Primary research has been shown to provide the essential components of many aspects of economic development during much of this century. Much of the early work on digital computing, for example, was completed at Iowa State University during the 1930s. And institutions such as MIT, Stanford, the University of Texas at Austin, and the University of Florida have all produced basic engineering research that has had major economic impact. It should be noted, however, that most technological transfer and the development of many technological applications occur not at the major research universities, but at midrange institutions because of the necessary emphasis on applied research, undergraduate teaching, and community service. In the public sector, these universities are represented by AASCU. For instance, California State University, Sacramento has established an Applied Research and Design Center, which organizes collaborative efforts of university and industry scientists. The Science and Technology Resource Center at Southwest State University in Minnesota, California University of Pennsylvania's Mon Valley Renaissance Center, and the George M. Low Center for Industrial Innovation at Rensselaer Polytechnic Institute are only a few examples of smaller university activities in this area. In each instance, universities are expanding the existing economic base by modifying production to meet changing technology.

Traditionally, the relationship between technology transfer and basic research has been viewed as unilateral. In the traditional model, basic research is seen as the crucible for applications. In the economic development arena, however, basic and applied research can be seen as a continuous feedback system: applications feed basic research which, in turn, expands the horizons for new applications. Perhaps the best example of this type of feedback system is provided by the space program. Much of the impetus for miniaturization of computer processors came from space research. Once miniaturization began, however, it spurred an entire new industry in microcomputing. The needs of this economic enterprise have created a market for additional basic research and the formation of research firms such as MCC in Austin, Texas, and the entire Silicon Valley development in California.

It should be further noted, however, that the rapidity of technological change mandates that future efforts in establishing technological innovation and transfer in a university context be seen as symmetrical. That is, if universities are to be active, positive participants in the innovation efforts, they must also have access to the newest technologies. It is doubtful, especially in the public sector, that resources will allow the outright purchase of necessary equipment and materials. If universities are to provide training and develop applications, they will require access through gifts, grants, or use of corporate and other facilities.

Nationally, there is an increasing recognition of the critical role midsize colleges and universities play in the development of both a sound economic base and technology transfer. For example, the National Science Foundation (NSF), which since its inception has primarily funded research in institutions large enough to support full doctoral programs, has in the last decade issued regulations earmarking funds for midsize schools. A percentage of available funds has been set aside and can be awarded only to smaller schools through the Research in Undergraduate Institutions Program. Additionally, the NSF Office of

Advanced Scientific Computing awards monies to small schools for equipment and communications circuits to enable these schools to access advanced computing facilities at the large research schools.

It can also be argued that technology transfer is most easily accomplished where universities are externally oriented. Many research universities are sufficiently internally driven by the research interests of their faculty which makes institutional adaptations to external conditions difficult and slow. The exceptions are the agricultural research efforts of the legislatively established land-grant colleges, which all support extension centers as part of their mission, and programs primarily supported by externally generated grants or contracts, such as much of the biomedical and engineering research. Interestingly, most of these projects, while falling under the rubic of basic research are, in fact, output or product oriented. Midrange, AASCU-type universities and colleges, derive their direction not only from the internal environment with its array of disciplines, but also from the community they serve. A prime reason is that a high percentage of students enrolled at these institutions are nontraditional, working students who bring real-world problems directly into the classroom. Additionally, faculty at regional and/or midsize institutions tend to become more actively involved in and knowledgeable about the needs of the community in which they live and work. Furthermore, because resources including research facilities are limited, these institutions must seek external linkages to attract, maintain, and develop high-quality faculty. Although the mission of the midrange university is to serve its community, that service also benefits the institution by fostering academic health.

Technology transfer is actually only a specific case of the more general notion of the *transfer of knowledge*, which is the raison d'etre for higher education. Unfortunately, there has been a politicization of research and education, which already threatens the budding symbiotic relationship between education and business. Recently, for example, the U.S. Public Health Service drafted a regulatory policy (currently under review by Congress) that addresses the issue of potential "conflict of interest." Although the intent of the proposed legislation is to reduce the incidence of scientific misconduct and to protect the general public, as currently written, it would severely restrict the ability of educational institutions and their faculty to receive financial benefits from the transfer of technology using federal funds. Several states have likewise proposed or adopted policies that would restrict technology transfer for a reason other than potential conflict of interest. These policies tend to give preferential financial treatment to entrepreneurial companies located in the state itself, thereby decreasing interstate competitiveness. Chmura identified this issue as one potential discouragement to growth and minimizes institutional effectiveness in technology transfer.[3]

University activity in technology transfer takes many different forms. First, there is *direct transfer*. The Sabin polio vaccine and the development of SUN Corporation are but two examples. In each case, products were developed through university-affiliated research programs and the results made available to the market place. Second, is *consulting*. Faculty with expertise sell their expertise to the market and thereby assist in transferring knowledge gained in basic and institutional applied research programs to the private sector. Third, there is *symbiotic transfer*, alluded to above. Universities and private businesses enter into mutually advantageous partnerships that enhance university capabilities to educate students directly and to conduct research. Private business, in turn, gains access to well-trained students and faculty expertise. These initiatives must be carefully monitored to ensure that the integrity of the educational institution is not lost to the allure of resource generation.

Symbiotic transfer is an interactive process which, when fully developed, can be initiated by either the university or community. When the university initiates the interaction, it shares new materials or applications with the community to broaden the economic base. Where the community initiates the activity, the university is more likely to play the role of specialist, professional, or consultant. In the case of small business, however, universities also lend direct support in the form of incubator space and access to hard technologies. Small business is thus able to utilize materials that otherwise would not be available or would be prohibitively expensive. (In Florida, approximately 99 percent of all enterprises are classified as "small businesses.") Finally, there is the process of *indirect transfer*. In this case, scientific or other publications resulting from basic or applied, technologically oriented programs stimulate economic activity through their application by other professionals both within and without academic institutions.

The third basic function of higher education in economic development involves the role of the university as a *locus of education and training*. Traditionally, at the doctoral level, basic and applied research have contributed to the development of extended expertise in narrowly defined fields. Similarly, master's-level education has acted as an additional professional credential, adding depth beyond the baccalaureate degree.

At AASCU-type universities the master's level takes on a new importance particularly relevant for economic development. First, in most disciplines, the master's is the highest degree awarded. Therefore, disciplinary faculty generally define master's students as their graduate student body and place great emphasis on it. Second, as the master's is often conceived as a practitioner's degree, direct application of knowledge and applied research are primary foci. Third, and especially on urban campuses, many students (both graduate and undergraduate) are employed while earning the degree, so the economic impact of their education can be felt immediately.

At the undergraduate level, all universities are in the business of enhancing students' general educational skills and of deepening their understanding of a particular field. Nationally, there is now considerable literature suggesting that the critical educational issue for economic development is the quality of the general education program. The skills needed in a complex, rapidly changing, highly integrated, global social and economic system include the ability to write cogently, to calculate, to problem solve, to communicate orally, and to think critically.[4] Students should also acquire the flexibility of mind to understand cultural variation and differences in language and communication patterns. If these skills comprise the academic enterprise, then specific, job-oriented training quickly loses its value especially since the details of training become obsolete in relatively short order.[5]At the undergraduate level, instruction should focus more on learning and thinking than on acquiring facts.

At the urban university, these general comments on undergraduate education for economic development are even more significant because of the nature of the student body. Recent research by the College Board shows that, nationally, "contemporary students" are female (58 percent), married (61 percent), and employed (89 percent) with a median family income of $27,500. Approximately 41 percent of contemporary students (the so-called adult learners) return to college to seek the baccalaureate. Seventy percent of those surveyed cited proximity of the college to their home and work base as their primary reason for choosing the institution at which they were enrolled. It is critical, therefore, that urban universities maximize their ability to provide strong general education to the citizens of their region. Many attendees of these universities cannot go elsewhere for their education and will most likely remain in the region after graduation. Therefore, if they receive a high-quality education, it will directly benefit the local economy.

The smaller, midrange colleges and universities also have several key characteristics that enhance their instructional quality. First, the most competent faculty at these institutions teach in the undergraduate program. Classes are not shunted off to graduate teaching assistants in large numbers; regular-line faculty teach the majority of beginning and other undergraduate classes. Second, undergraduate class size is relatively small, reflecting most directly the funding formula. Large numbers of doctoral programs have not been established on the backs of the undergraduate students, which results in an increase of the undergraduate classroom size sometimes to hundreds of students. Third, because so much of the life of a regional university is drawn from the community it serves, programs tend to reflect the needs and desires of the community. Therefore, many of the most directly relevant, employment-related programs of study are at regional campuses.

A serendipitous, additional advantage of the urban campus is the availability of highly qualified, professional adjunct faculty. For example, a doctoral student is not likely to be as qualified to teach criminal law as is the local district attorney.

A final characteristic, not necessarily related to quality education per se, is the ability of AASCU institutions to attract and enroll higher percentages of minority and undereducated students, as well as those who are in need of reeducation to meet job demands rapidly changing with technological advances. The work place needs skilled workers who have the ability to analyze problems and to resolve them, not simply to push buttons. Access to higher education for the most rapidly increasing segments of the population (minorities and undereducated) can most readily be gained at the urban, AASCU-type universities.

In the noncredit arena, universities also play a major economic development role. Continuing education, for example, can provide training in specific skills, educational enhancement, and cultural activities at a reasonable cost that increases an employer's ability to compete for employees and business. At the same time, prospective employees can gain job specific skills not normally available through credit instruction.

On the other hand, it is critical that many programs traditionally located at research institutions be allowed to develop at the more focused regional institutions. Even though these programs are often expensive to operate, the training they give and the faculty they attract are extremely important to the economic development of their regions.

The historical roots of many AASCU institutions involve teacher preparation. During the years since World War II, most colleges and universities have added curricula in other professional fields while simultaneously maintaining interests in and commitments to educating future and inservice teachers. Today, this particular mission is receiving national attention and is once again emerging as a central focus for the federal, state, and local governments. And, as shown by the President's recent education summit and the rediscovery of teacher education by major research universities, the quality of teacher education is inexorably linked to the restoration of American competitiveness in the global market place.

Finally, a university acts as a *font of cultural activities*. Much national research indicates that employers consider both the quality of K-12 education and the availability of cultural events such as symphony, opera, art exhibits, and the like to be critical elements in their determination to relocate. Similarly, highly educated employees tend to focus on the overall quality of life, not merely the job, in their decisions to move. Therefore, to the extent that universities can improve the quality of the K-12 education system and provide access to cultural activities, as well as direct educational opportunities, they provide the backdrop for economic development.

Critical Questions for Legislative Hearings

We have discussed the vital need for universities to broaden their community linkages and to accept with other institutions a shared responsibility for economic development of their communities. Based on the preceding discussion, the critical questions for legislative hearings on the role of higher education in economic development can be summarized as follows:

Access

To what extent is local access to higher education key to economic development? What disciplines require local access? To what extent does local access enhance the possibilities for attracting minority and "contemporary" students? How can the costs of access be measured against the benefits? What are the sources of funding, and what should be the legislature's role in funding? What are the trade-offs between serving in-state needs and attracting out-of-state students through tuition waivers and other financial incentives?

Structure

To what extent does current higher education institutional structure aid or inhibit university responses to economic development needs? What should be the role of education in fostering interrelationships among institutions? What focus should these relationships have? What balance should be sought between effectiveness and efficiency? How should they be defined and measured?

Change Orientation

What are the means by which the legislature can encourage universities to adopt orientations that enhance their ability to respond to changing technical and economic conditions? Are there current laws and regulations that unnecessarily limit flexibility?

Technology

Can the legislature assist in establishing symbiotic technology transfer programs within current university structures? What are the alternative means for obtaining funding for technology? How have changing technological needs affected space allocation and the efficacy of current space formulas? What is the extent of the "technological deficiency" in undergraduate education in state colleges and universities?

Faculty Reward Structure

To what extent do current tenure, promotion, and merit procedures positively or negatively affect institutional ability to assist with economic development? To what extent could consulting and other economic development-related activities be encouraged by a "flexible" reward system (e.g., minimum base salaries and the like)? What responsibility does the institution have for the work its faculty conducts as consultants or researchers in specific projects? Would this be affected by a flexible reward system underpinned by economic development thrusts?

Funding

What are the funding needs for economic development? What costs are involved, and how are they to be defrayed? Traditionally, instruction and research (I&R) funds are used primarily within a university, but economic development seems to lead to increases in stress on current I & R bases. (E.g., the current desire in some quarters to treat university libraries as part of a state library network could lead to major increases in costs to operate university libraries and reduce the availability of resources for registered students and researchers.) How would increased emphasis on economic development affect the percentage of faculty effort allocated to teaching? What impact will there be on institutional needs for operating expenses, other personnel services, travel and the like? What is the value of institutions' maintaining indirect costs from grants and contracts in terms of their ability to address economic development issues? Should there be a state allocation of faculty development funds directed at enhancing institutional ability to engage in economic development activities?

In sum, AASCU institutions have long been engaged in the type of activities generally termed *economic development* today. These activities have been accomplished through ongoing institutional structures and within current funding bases. However, increased emphasis on economic development, as well as changes in the level and nature of demands placed on colleges and universities, will require commitment from state government, private enterprise, and the institutions themselves.

This chapter is a product of the spring 1989 task force on economic development at the University of North Florida.

Notes

[1] Tom Chmura, Ed., *The Higher Education-Economic Development Connection: Emerging Roles for Colleges and Universities* (Washington D.C.: AASCU, 1986).

[2] S. Kaplan, "AASCU's Clarion Call to State Colleges and Universities," *Change*, 19:48-51, 54.

[3] Chmura, p. 13.

[4] Educational Commission of the States, *Transforming the State Role in Undergraduate Education: Time for a Different View* (Denver: ECS, 1986).

[5] John W. Bardo, "Teacher Education: A Look to the Future," *Liberal Education*, 72:263-73.

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